DRUG AND COSMETIC INDUSTRY

SEPTEMBER 1937

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FRAZER V. SINCLAIR, Business Manager
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SETTING DRUG STANDARDS

It is time that this industry squarely faced the fact that the Food and Drug Administration is making a determined and carefully planned drive to undermine the U. S. Pharmacopoeia and to obtain for itself the additional power to set the standards for this industry. The attitude which the Administration has taken on titles of pharmaceutical titles clearly looks like one part of the program, for when, as, and if these titles are changed according to the Administration's wishes many of the titles in the official compendia will be out of line. Further, the attempt to embarass importers and manufacturers by attempting to hold up goods when the Pharmacopoeia is clearly in error or when a test in can be conducted in such a manner that the Pharmacopoeia appears to be in error, is a real effort to get the manufacturers dissatisfied with the present set-up.

It is well known that U.S.P. XI contained plenty of errors when it was issued and that all of the errors have not been eliminated by issuance of the First Supplement which becomes effective December 1. The U.S.P. Revision Committee has expressed willingness to correct the errors but the committee does not appear properly constituted to move rapidly enough in this work. Either the Revision Committee must take further steps to assure manufacturers of swifter work on its part, or the manufacturers and importers will agree with the Food and Drug Administration that the making of drug standards belongs in the government.

But if manufacturers should arrive at this point, they will probably fight to the limit the proposition that this work be placed in the hands of the Food and Drug Administration. There is no reason why this department, charged with enforcement of these standards, should also be allowed to make the standards. Far better would it be to have some impartial government body such as the Bureau of Standards or perhaps the Public Health Service charged with this work. But manufacturers must make up their minds just what they do want before the movement gains too much momentum.

NEW and NON-OFFICIAL

THE ROBINSON-PATMAN ACT is not working out in the direction that some of its most earnest advocates thought it would,—in fact it is working out in just the opposite direction. The wholesale druggists, who worked hard for enactment of the bill as a means of protecting themselves against further inroads by the chains, are running into difficulties. For the Druggists Supply Corporation, a combination of independent service wholesalers, has not made any allowances to its members recently. The reason for this is clear: The D.S.C. pools orders for its members and obtains certain concessions in the form of brokerages or discounts, part of which at least are passed on to the members. An adverse decision having been rendered in the Biddle Purchasing Company, who bought for some 2,400 wholesalers largely in the hardware business, does not make it look so good for the D.S.C.

Further than this it should be pointed out that the FTC found that the price differential which the Bird Floor Covering Company allowed to big buyers was too low by eight per cent. The facts were that it cost Bird only 18.6 per cent to sell Montgomery Ward, against a cost of 47.1 per cent to sell ordinary retailers.

WITH THE MILLER-TYDINGS BILL now the law of the land, and forty-two states having price maintenance laws, the manufacturers of nationally advertised goods must establish minimum prices under contracts or else . . . And now we will see whether or not the retailers are going to support the manufacturers as they have promised to do. Our own belief is that the law of self-preservation still prevails and that the retailers are going to protect themselves. We must remember that the food bill of most families has doubled within the last two years (if the family has the money to pay twice as much for food) so where are these people going to get more money to pay increased prices for drugs and cosmetics?

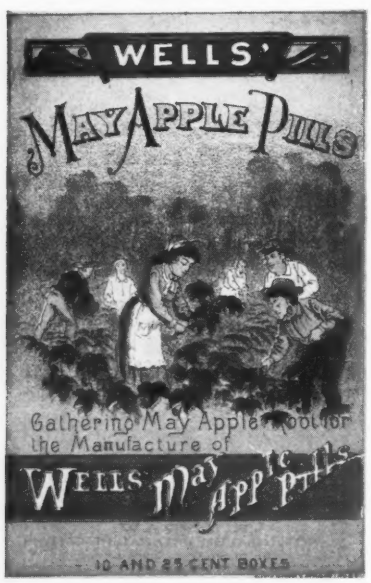
Under the circumstances, most people must be looking for lower prices on drugs and cosmetics, and if retailers force manufacturers' minimum prices up is it not logical that they will not sell as much and will make less profit in the long run? It is also logical that it will be abused by the consumers coming into their stores much in the same manner as the grocers and butchers have been abused for some time past. The only difference is that the grocers and butchers truthfully tell the customers that it is not their fault although the customers do not always believe them. How are the retailers going to duck this sort of abuse when they were the ones who fought so hard to get these laws enacted? The average retail druggist will doubtless place the blame upon the manufacturer and offer lower-priced merchandise.

Place yourself in the druggist's place when an abusive customer complains about higher prices. What would you do? Would you try to protect the manufacturer or would you try to protect yourself? The forty-two states having price maintenance laws will represent forty-two collective bargaining agencies with whom the manufacturers will have to deal. Prices will be have to be set where the druggists want them. The increases might come gradually over a period of time but believe us, they will come.

Now that the druggists have the laws, the shoe is going to be on the other foot. For instead of the retailers pleading to the manufacturers to help them make a profit, the manufacturers are going to be pleading to the retailers to give them a break. And why should a retail druggist think about anything but himself? After all he is just a little man and the manufacturer is a big fellow. We are of the opinion that the question of price stabilization has just entered a new phase,—it is far from being settled.

SULFANILAMIDE CONTINUES TO GROW in importance and to be used more widely every day. But despite the heavy demand, prices for the material are steadily declining. Opening at nine dollars per pound when first placed on the market only a short time ago, many declines have taken place until it is now priced at a basic level of two dollars per pound for one thousand pound lots. Winthrop Chemical Company, who first introduced the product under their trademark name of Prontilyn, have not been reluctant to reduce their prices for tablets as the market for the raw material has declined. Consequently the greatest discovery in medicine in the past twenty-five years is available to the public at reasonable prices within a year after it was first introduced to the profession.

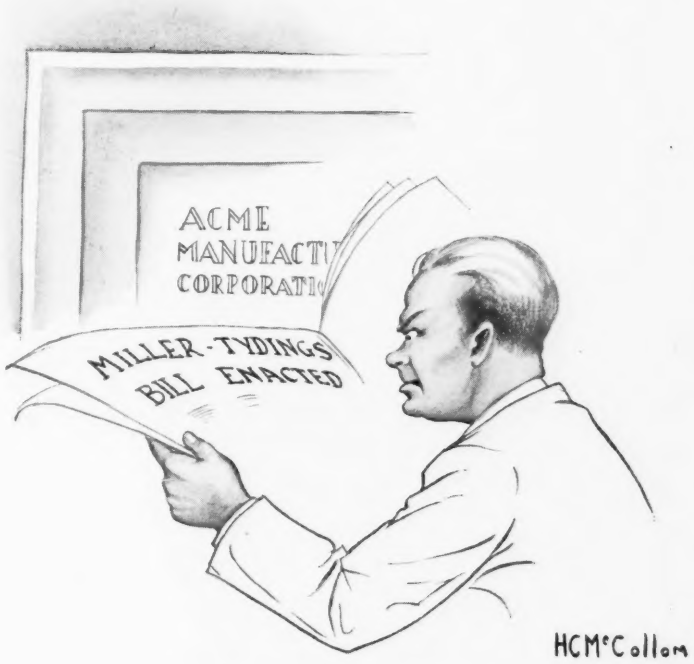
Our Family Album



A delightful picture supposed to depict the gathering of May Apple Root for Wells' May Apple Pills. Another of those colorful advertisements used in the nineteenth century to sell drug products.

TALKING OF INCONSISTENCIES on the part of the Food and Drug Administration, some recently spoke of the Administration's attitude regarding alcohol as a glaring example. The Administration contends that the words "any alcohol" in the Food and Drugs Act means any *kind* of alcohol. Therefore the Administration insists that isopropyl alcohol, benzyl alcohol, and many other alcohols be declared upon the labels of preparations containing them. As a matter of fact the language of the bill was written when ethyl alcohol was the only alcohol known and used to any extent.

But even though there might be some justification to this attitude, how does the Administration reconcile this with the attitude that "Rubbing Alcohol Compound" can only mean ethyl alcohol. In one case they say that the word "alcohol" means anyone of a number of things, while in the other case they say that the word "alcohol" means only one specific thing. We know very well that they will claim the word "alcohol" might mean one to those in the industry and another thing to the ordinary consumer. But why not be consistent since the consumer is the one who is reading the label and the one who is to be protected. Certainly if the Administration wants rubbing alcohol to be only ethyl alcohol because this is the only thing that the ordinary consumer knows as alcohol, why do they insist that consumers be told about a lot of other alcohols of which the consumer has no knowledge?



"I was afraid of that."

NOW THAT THE FOOD AND DRUG Administration is reaching out for control of cosmetics in the proposed Food, Drug and Cosmetic Act, and now that the American Medical Association has established a committee to exercise control over advertising of cosmetics, the American Pharmaceutical Association makes a somewhat belated effort to establish a council on cosmetics. At the meeting held in New York in August, the A. Ph. A. passed a resolution calling for the establishment of such a council.

The first thing we know, all the boys who at one time scorned the cosmetic business will be right there to regulate it. Perhaps we are being a little too harsh upon the A. Ph. A. since the pharmacists have always been interested in cosmetics, and the U. S. Pharmacopoeia does include cold cream as an official preparation, even though it is officially called Rose Water Ointment.

But undoubtedly the cosmetic industry will benefit from increased interest in the scientific aspects of cosmetics. After all, the industry should not feel badly about these people taking an interest in cosmetics, as these are signs that the industry is growing to real proportions.

SOMETIMES WE WONDER WHY the U.S.P. Revision Committee does not find the errors in the U.S.P. before some one calls these errors to their attention. Certainly it is not necessary to have the Food and Drug Administration refuse to admit the best quality goods into the country before it is known that a mistake exists in a monograph of the U.S.P. These things could be found by diligent searching and care before they bring about real hardships to importers and manufacturers in the form of real shortages.

But the Revision Committee goes merrily on its way as is the case with packaging requirements in the U.S.P. Ever since the introduction of the original Tugwell Bill in 1933, every draft of the proposed Food, Drug, and Cosmetic Act contains the provision that official preparations must be packaged as prescribed in the official compendia. At no time during the many hours spent over these bills in conferences and hearings during the past four years, has there even been a remote possibility of this provision being deleted. Yet the U.S.P. Revision Committee has done nothing to bring the U.S.P. in line with this provision.

The Pharmacopoeia still contains the classic statement under Cold Cream,—titled "Rose Water Ointment"—"Preserve Rose Water Ointment in pure, tin collapsible Tubes." There are other examples of packaging provisions in the U.S.P. which are in accord with current practice. Several examples we have noted require glass stoppered bottles, for products which are today almost universally closed with plastic caps. Also the U.S.P. has packaging requirements of any sort in relatively few of its monographs.

Why does not the Revision Committee do something about this work before the new law is effective and manufacturers are in difficulties with the Food and Drug Administration? If the Revision Committee would only take the initiative in some of these matters, many of the difficulties would not arise.

THE WAR IN THE FAR EAST is having its effects upon raw materials for this industry. A short crop of ephedra vulgaris is further aggravated by the fact that the Japanese are now in control of the shipping port for this important raw material, and it will probably be difficult to get the new crop goods out of China. Anise oil, Cassia, and other important Chinese raw materials are in scant supply. In addition, the Japanese are becoming firmer in their prices for the products upon which they have virtual monopolies—natural camphor and natural menthol. On natural products of this type they seem likely to get all the traffic will bear in order to get money to carry on the war. On manufactured goods they will quote lower prices to obtain business.

GRASPING DRUG

DR. JAMES J. DURRETT

UNLESS all signs are wrong, the Food and Drug Administration is making a determined drive to get the power to set the standards for this industry. They are apparently doing everything that they can think of to undermine the U.S.P. in the belief that they can prove that the work of preparing these standards would be more effectively done in the Food and Drug Administration than by the U.S.P. Revision Committee.

Further than this, and probably as part of the same program, they are attempting to prove that many of the titles of the U.S.P. and the N.F. are, in fact, false and misleading. The Administration claims to have the power to make manufacturers of non-official preparations include in their titles all the active ingredients. If they are successful in bringing manufacturers into line on this part of the program, they will quickly pounce on the titles in the U.S.P. and N.F. that are not in accord with this nomenclature, making demands upon the revision committees that these titles be changed. As a matter of fact, Enforcement Chief Walter G. Campbell went so far in his statement to the newspapers as to say, "To label as fluid extract of belladonna, a compound containing two or more other potent drugs, would be as false and misleading as to label and sell as apple jelly, a mixture of apples and current jelly." This statement he has made despite the fact that Fluid Extract of Belladonna is a title in the U.S.P. that does not contain anything but the alkaloids of belladonna and alcohol. In other words the product is just what it claims to be, and further it is an official preparation, over the title of which the Food and Drug Administration claims it has no control.

The admission that the Administration has no control over the titles of official preparations came in a bulletin over the signature of Acting Secretary of Agriculture Wilson, dated August 7, 1937. This bulletin evidently was the result of storm of protest arising over the new attitude of the Administration regarding titles of pharmaceutical products. The bulletin reads:

"From time to time inquiries are received regarding regulation 14(f) for the enforcement of the Food and Drugs Act. This regulation reads as follows: "An article containing more than one food product or active medicinal agent is misbranded if named after a single constituent. In the case of drugs the nomenclature employed by the United States Pharmacopoeia and the National Formulary shall obtain."

"The first sentence of the regulation is based upon the requirement of the Act which defines as misbranded any food or drug the package or label of which bears any statement, design, or device which is false or misleading in any particular. In view of this specific provision of the law, a drug other than those listed in the United States Pharmacopoeia or National Formulary will be deemed to be misbranded if named after one or more, but not all, of its physiologically active constituents. The fact that elsewhere upon the label, or in other

CONTROL

DR. E. FULLERTON COOK

printed matter, the complete formula is given does not justify a false title.

"The second sentence of the regulation means that titles recognized in the United States Pharmacopoeia and National Formulary shall be employed in labeling drugs listed in those official texts. Upon the deletion of titles from the United States Pharmacopoeia and National Formulary, such drugs become subject to regulation as other unofficial preparations.

"In so far as they are inconsistent herewith. Food Inspection Decision 63 and other announcements are hereby revoked."

The unsettled situation with regard to titles is extremely upsetting to manufacturers of pharmaceuticals. If the Administration is to have its way in this program, the result will be that fanciful names will have to be used or else long and complicated titles will have to be adopted. An Aspirin Compound Tablet, such as is manufactured by most pharmaceutical manufacturers, would have to be called Aspirin-Acetphenetidin-Caffeine Tablets. Also, because Hinkle's Pills are in the N.F., Hinkle's Tablets are unofficial and must be called something like Cascara-Aloin-Podophyllum-Belladonna-Strychnine-Ginger Tablets. One can go through the entire list of pharmaceuticals, other than official preparations, and find any number of such instances. With practically all of these preparations, the complete list of active ingredients is given on the label. There is no deception, and the physician knows exactly what is being prescribed.

But the Administration is also acting in a vicious manner with regard to the importation of raw materials. There are now several instances of errors in the U.S.P. Products of first quality can not meet the U.S.P. tests because these tests are wrong. The Administration refuses to apply the rule of reason, but suddenly becomes a stickler with the apparent thought that to do so will greatly embarrass the U.S.P. Revision Committee and expose the weaknesses of the U.S.P. to greater publicity. Furthermore, the Administration probably feels that if they embarrass importers and manufacturers by detaining goods when the U.S.P. is in error, they will create a feeling among these importers and manufacturers that the U.S.P. would be better off in the hands of the Administration.

Two instances where the U.S.P. is in error are in the monographs on Aloes and Gum Benzoin. No lot of aloes imported in the last thirty-five years will give a "nearly clear" solution as required by the U.S.P. when one gram of the aloes is gently heated with fifty cc. of alcohol. With reference to Gum Benzoin the U.S.P. requires that xylene be used for testing for rosin instead of petroleum benzin. And the fact is that the test with xylene indicates rosin in every case, even when there is no rosin present. The Administration has refused to pass any of these goods even though they are now convinced that the goods are of excellent quality and that the fault lies with the U.S.P.

But to show that even when the U.S.P. is not in error, they can still detain goods, take the case of almond oil. The U.S.P. states that the solidification point of the fatty acids of almond oil is not below 9° and not above 12°. The test calls for reading the thermometer when it stays at one point for thirty seconds and then taking the point to which the temperature rises. Experts who have conducted this test upon almond oil get a perfect reading at about 12°, but when the Administration analysists conduct the test, they get a reading of 5.3°, and the oil is rejected. The trouble comes in the way in which the Administration conducts the test. The Administration does not take the first place at which the thermometer reading comes to rest for thirty seconds, because there are several lower places at which the thermometer reading comes to rest after the first point. Therefore, they conduct the test in a manner which gives an incorrect reading, even though it is possible to obtain the proper reading.

An expert who was conferring with the department and who noted the errors with the department made in

conducting the test, asked why the Administration did not obtain some pure almond oil and see what reading was obtained with known pure oil. The reply was that the Administration had pressed the pure oil out of some almonds and had obtained a reading of 5.3°. Therefore the Administration claims that the U.S.P. is wrong and they will not allow in any almond oil that does not meet the U.S.P., even though they know that the pure oil will not meet the test as they conduct it. Here is an instance in which the U.S.P. test is not completely satisfactory, but is still usable. But the Administration prefers to perform the test in a manner in which it appears incorrect, embarrassing manufacturers and importers, and further undermining the U.S.P.

Some people do not believe that government departments will act in such a manner deliberately, rather believing that enforcement officials are always interested in enforcing a law in the proper manner. However, these people were never government officials and do not know of their insatiable thirst for power. After all, government officials are not highly paid and can not aspire to large incomes. But they must have something that they are after. And what they are working for is more and more power, especially if they are at all ambitious. Therefore the Food and Drug Administration would like nothing better than to have complete control of the making of all the standards for drugs. This would increase the importance of their department, give them greater personnel, and perhaps give them some higher salaries. They probably do not think there is anything wrong in detaining first quality goods and embarrassing manufacturers and importers even to the extent of suits for non-delivery on contracts. They probably think that it is perfectly proper to conduct a test on a raw material in any way they see fit even though the pure product does not meet it. Theirs is a type of mind that seems most peculiar to the average business man. However, this is the type of mind that exists in government departments, and it must be reckoned with.

One can well imagine an attitude being created within a government department by the higher officials that such a plan as the undermining of the U.S.P. and N.F. would be desirable. It might not be expressed in just this manner, but the impression that the official compendia are not satisfactory to the Administration or to some manufacturers might be circulated. Also all employees of the Administration might get the impression that the top officials would like to get this work into the department with great rewards and better jobs for all. Under such circumstances imagine the feeling of something great accomplished that would come to an analysist who found that he could conduct a test in the U.S.P. in such a manner that even the pure goods would not pass. Under such circumstances he would believe that he was helping the cause, and would expect a kindly pat on the head by his superiors in recognition of his good work. Surely, he would think, his superiors would consider him a valuable man.

The industry itself is very apt to lay most of its trouble at the door of the Chief of Drug Control, Dr. James J. Durrett. After all the industry had plenty of trouble when Dr. Durrett was in office before his present appointment, and they have been expecting more after he went back. It is surprising, however, that during Dr. Durrett's time in the office of Chief of Drug Control, an attack should come on Dr. Cook's Revision Committee, since Dr. Durrett was believed to have been perfectly satisfied with Dr. Cook at the Pharmacopoeial Convention in 1930. In fact it was said at that time that Dr. Durrett and Dr. Fishbein made a direct threat that if Dr. Cook were not reelected, they would see that a bill was introduced in Congress during the U.S.P. over to the government. Now Dr. Durrett seems bent in this direction anyway.

It is true that the U.S.P. XI has been far from satisfactory from the start. The unfortunate part of the U.S.P. as it is at present revised is that the members of the Revision Committee are college professors who do not come into contact with the commercial aspects of pharmacy very often, and who are not analysts in any sense of the word. Too often they turn the work over to students who know less than they do. If the U.S.P. Revision Committee would either place on the committee men acquainted at first hand with the products in question, or would create more advisory committees and then actually listen to them, these errors could be quickly cleared up. The Revision Committee must speed up its work of interim revision if it is to stop the Food and Drug Administration from undermining it, and if it is to stop the growing attitude on the part of the manufacturers that they would be no worse off under government standards and would probably be better off.

Manufacturers who looking ahead see that the movement for government control of drug standards is gaining great momentum, and they are now looking the problem squarely in the face. They are determined, however, that the Food and Drug Administration is not the body to set these standards since they are not equipped to do so, and if they were given the power, they would be the legislators, the judge, and the jury so far as drugs are concerned. These manufacturers would rather see this work turned over to the Bureau of Standards or the Public Health Service.

After all, these manufacturers point out, the making of standards and the enforcement of a law are two totally different things which call for different types of minds. Men engaged in the setting of standards, should not be called upon to test goods using these standards as a part of their routine. The two things should be completely separated.

PRICE MAINTENANCE NOW LEGAL

While the Miller-Tydings Law gives manufacturers the right to fix prices in forty-two states, the manufacturers must take certain steps to operate properly.

Now that the Miller-Tydings Act has become the law of the land, manufacturers can issue contracts from their home offices compelling distributors in the forty-two states which have Fair Trade Acts, to sell at the prices stipulated in these contracts. The Miller-Tydings Act gives manufacturers the right to operate in interstate commerce in compelling price maintenance under the laws in these forty-two states. The act is an amendment to the anti-trust laws, suspending the operation of these laws in interstate operation of the state Fair Trade Acts. The only states which are without Fair Trade Acts are: Alabama, Delaware, Mississippi, Missouri, New Hampshire, and Texas. The District of Columbia and the possessions of the United States are also without Fair Trade Acts as these come under the control of Congress and the President. Thus far Congress has not passed any Fair Trade Acts for these possessions or for the District of Columbia, the only thing that Congress has done is to the states having these laws to operate across state lines without violating the federal laws.

In order to operate under the Fair Trade Laws, manufacturers must have in force at least one contract with each type of distributor in each state having these laws. And the contracts made in each of the forty-two states must only apply to the individual states in which they are made. It must be remembered that there is no Federal Fair Trade Act, but only state laws applying to individual states. There is no limit to the number of contracts that can be issued, but one is all that is absolutely necessary in each state with each class of distributor so long as other distributors of the same type are notified that the contract is in effect. All the distributors of any type within any state are bound by the contract which the manufacturer makes with any one of the distributors in that state.

However, the best course to pursue is for a manufacturer to send contracts to everyone who sells his goods and get back as many signed contracts as possible. As to the various types of distributors, it is necessary for a manufacturer to make contracts with wholesalers if he wants wholesalers to sell at fixed prices to retailers. Also he must make contracts with retailers if he wants the retailers to sell at stabilized prices to the consumers. The manufacturer has the right in these contracts to name minimum prices below which the distributors cannot sell.

After the contracts are issued and in effect, suit can be brought against distributors selling below the minimum prices. An injunction will be granted against the distributor who will also have to pay damages, and then a second offense will be in contempt of court with a fine or jail sentence imposed by the court.

Because of the fact that some states have laws which prevent foreign corporations from other states from bringing suit, it is better to have the contracts signed by the distributor in the state in which he is located, and then the contract to the home state for final approval and signature. The contract should state that it was in the home state of the manufacturer. In the states that have such laws, it is necessary to ship the goods to the distributors in interstate commerce. However, in states in which foreign corporations cannot bring suits, an action can be brought in the name of a local competing distributor who has been injured by the price-cutting, or the Federal courts can be appealed to for relief.

Practically all manufacturers in this industry will be forced to operate under these laws. For if this is not done, retailers will backshelve the merchandise and do all they can to prevent its sale.

As to the type of contract to be used under these laws, we offer the following one, distributed by the Toilet Goods Association, as typical:

(*Continued on page 373*)

NEW HOUSE FOOD AND

After many weeks' labor, the House Interstate and Foreign Commerce Subcommittee on food and drug legislation brought forth a revision of S. 5, the Copeland bill, in the closing days of the First Session of the Seventy-fifth Congress. Representative Lea of California, Chairman of the House Committee on Interstate and Foreign Commerce, has announced that that body will be pleased to receive and consider views and suggestions from interested parties concerning the proposed legislation, but that it is not proposed to hold hearings on the subject.

It seems to representatives of the drug and cosmetic industries in the national capital not unlikely that enactment of food and drug legislation will be completed after Congress reassembles next January—this barring possible political complications not unrelated to the campaign of United States Senator Royal S. Copeland for Mayor of Greater New York. It is no secret that Copeland is anathema to the Roosevelt Administration, and friends of the Administration on Capitol Hill hint that it might not be desirable for new food and drug legislation to have Copeland's name identified with it. If Copeland is translated from the United States Senate to the New York City Hall, the food and drug political-legislative situation in Washington would probably be materially simplified.

The new House food and drug bill was drafted after hearings, conferences with trade representatives and prolonged subcommittee sessions that were attended by C. W. Crawford, the Food and Drug Administration's chief contact man on the Hill. The bill takes the form of a revision which, in effect, wipes out much of the old law although retaining certain important features and including a great deal of new matter. The new bill differs in this respect from several food and drug bills of the present and past Congresses, which were drawn along the lines of amendment to the old law.

On this point the new bill does not meet the ideas of some representatives of the trades and industries concerned. During consideration of food and drug legislation in Congress in the past few years, it has been repeatedly pointed out that wiping out of the old law and enactment of a completely new law, rather than amendment of the old law, would result in scrapping much in the way of court decisions, rulings, and regulations based on existing law. An attempt has been made, apparently, to avoid such condition as much as practicable by retaining language of the old law that agrees with the theory and scope of the new bill. With respect to such provisions, present decisions, rulings, etc. would stand, it is believed, if the new bill becomes law.

On the other hand, a new law such as proposed by the House subcommittee would tend, in the opinion of some trade representatives, to upset the situation with regard to conformity of state food and drug laws with the federal law. If the new bill passes, States will either have to let up on enforcement of their old laws pending enactment of new state laws, which would probably require too much time, or it is believed they will cause plenty of trouble in the sale of nationally advertised products. Under thecircumstances outlined the latter would have to conform to the new federal law in interstate commerce and also to old state laws differing largely from the new federal law.

It would not be accurate to report that the trades and industries vitally concerned are satisfied with the new House subcommittee bill. On the other hand, they admit frankly that there is improvement over the Copeland bill and certain other bills proposed in Congress during the last two or three years and, in some respects, that there is improvement over existing law. Conceding that the new measure may adequately protect the interests of the public, trade representatives do not want to see anything in that measure enacted into law that would be unfair to the interests of the industries with which they are identified. To that end they have worked diligently in assisting in efforts to draft proper legislation. They have succeeded in having a number of important changes made in the bill by the House subcommittee. They have still other

DRUG LEGISLATION

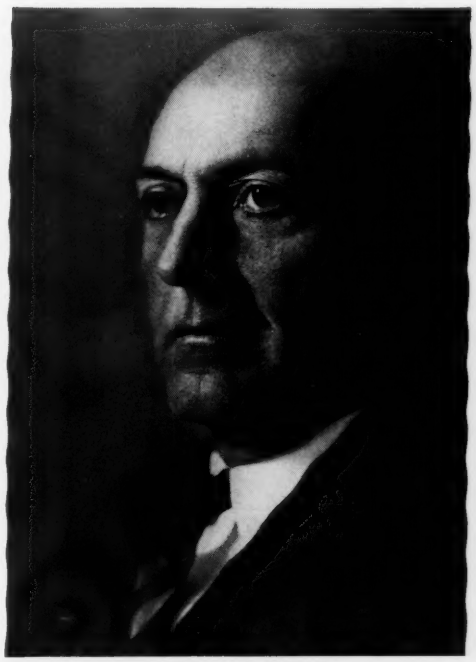
By H. C. HALLAM

changes in mind that they would like to see made, but they are disposed to hold their ammunition until they see the whites of the enemies' eyes.

Perhaps the most important change made in the House bill, as compared to S. 5 in the form passed by the Senate, is the omission of control over advertising of foods, drugs, cosmetics, and devices. The Copeland bill specifically charged the Department of Agriculture with control over such advertising. False advertising of the products named was forbidden in the bill. The House committee, after long and careful deliberation, took out of the measure all reference to advertising. Misbranding is limited to labels and labelling.

Regulation of advertising of foods, drugs, cosmetics and devices, under a prohibition of false advertising of such articles, the House Committee on Interstate and Foreign Commerce would retain or place under the Federal Trade Commission. For years the latter body has exercised jurisdiction over advertising of commodities generally, by forbidding alleged false advertising as a form of unfair competition. The power and authority of the Federal Trade Commission in the matter of jurisdiction over drugs, cosmetics, devices, and foods is clarified and amplified by the Lea-Wheeler bill (S. 1077) to enlarge the powers of the Commission and otherwise amend the Federal Trade Commission Act. That measure passed the Senate early in this Congress and has been favorably reported with important amendments by the House Committee. This bill is believed to be in line for favorable action by the House of Representatives next winter.

The Lea-Wheeler bill prohibits dissemination of false advertising through the mails, or otherwise in interstate commerce, by radio, or any other means for inducing the purchase of drugs, cosmetics, devices, or foods. A false advertisement is defined as "one which is misleading in a material respect." The advertiser would be charged under the bill with the responsibility of seeing that his advertising is not misleading. For trivial or inadvertent offenders the bill prescribes the regular procedure of the Federal Trade Commission through a cease and desist order. In cases of persistent false advertising of drugs, cosmetics, etc., after the Commission has issued a formal complaint, it would be empowered under the new bill to seek a temporary injunction to prevent continuance of the offense. An injunction can also apply against threatened false advertising and against evasions of Commission orders through technical changes in ads.



WALTER G. CAMPBELL

The Commission's cease and desist orders against false advertisers would become final and operate against further transgressions, without the necessity of starting new proceedings as now required by law. A penalty of $5,000 is proposed for each violation of a

cease and desist order against false advertising. Where advertising aims to induce the purchase of articles injurious to health and also where advertising is done with intent to defraud or mislead, it is provided that the offense shall be prosecuted as a crime and be punishable by imprisonment up to six months or fine up to $5,000 or both. For a second offense after a first conviction, the penalty proposed is fine up to $10,000 or imprisonment up to one year or both. Such criminal offenses would be prosecuted through the Department of Justice.

Handling of the Federal Trade Commission bill and the food and drug bill by the same committee in the House has made it comparatively easy to secure identical definitions of subjects dealt with in both measures. Provisions are included in both bills which should result in coordinating activities of the two branches of the government concerned and at the same time preventing duplication and overlapping. The bills contain similar penalty provisions and similar provisions, for example, concerning cases where differences of medical opinion exists as to the effect of drugs and medicinal products both in connection with labeling under F.D.A. and false advertising under F.T.C. If this harmony can be preserved through other stages of these bills until their enactment into law, the result should be helpful alike to the government and to the trades concerned, it is believed.

The House subcommittee food and drug bill curbs the power of the Secretary of Agriculture to add additional names to the list of habit-forming drugs mentioned in the bill. As passed by the Senate, the bill would have permitted the Secretary to add to this list any drug he finds habit-forming. As recommended by the House Committee, this power of the Secretary would be limited to derivatives of recognized narcotics and habit-forming drugs named in the bill. Under this change of the bill, it would not be possible for the Food and Drug Administration to require that aspirin and other analgesics be labeled with a warning that they may be habit-forming. This is a very important change in the proposed legislation, in the light of statements made by Dr. J. J. Durrett, chief of Drug Control of F.D.A., that aspirin and phenacetine are habit-forming.

Active ingredients of drug preparations must be shown on the label, under the House bill, or the complete formula must be given to the Department. The Senate bill provided only for label showing of ingredients.

Drug products for export need no longer be labeled "for export" on the outer container, as originally proposed in the Senate bill. Such labeling was objected to by export interests, which pointed out that it would be seized upon by British or other competitors in Latin America, for example, with the claim that goods so marked were inferior. The point was made that if a package for shipment was addressed to a consignee in Havana, Cuba, obviously it was intended for export to that country.

In connection with the labeling of drugs as to which there is a difference of medical opinion concerning their effect, the House bill contains a proviso that their labels may refer to such difference but that failure to state on a label that there is such a difference of opinion shall not relieve the government of the burden of proof to show that a label is misbranded. This proviso is important with respect to new products which may not be well-known to the medical profession. If such a product did not bear a label statement referring to a difference of opinion, under the Senate bill the manufacturer could be confronted by the Department with the opinions of medical men who did not know the product and charged with misbranding. Again, differences of opinion between the various schools of medicine may be taken care of under a label statement referring to differences of opinion. For example, if a homeopathic product were labeled for certain conditions, under the Senate bill, the opinion of the allopathic school of medicine could be cited against it to prove misbranding. The same would be true as to products favored by members of the eclectic school, and vice versa.

Important changes have been made by the House Committee in the seizure provisions of the bill. In the case of any adulterated drug or cosmetic product, multiple seizures will be permissible. In the case of misbranding there could be multiple seizures where use of the product according to directions would be dangerous to health, or in the case of a product subject to previous seizure and court decision favorable to the government, or where the label is materially false, misleading, or fraudulent. It is claimed that the provision limiting multiple seizure for misbranding is in line with F.D.A. administrative policy, although the limitation is not in the present law.

In the provision for trial of offenders an amendment has been inserted permitting trial by jury on demand of the accused, instead of by a judge. Court proceedings under the act could be had in a state adjacent to the manufacturer's place of business. These provisions have been liberalized by the House Committee, compared to the Senate bill. Under the latter the government could have fixed the place for trial. The House bill provides that the government and the manufacturer may stipulate by agreement where a trial may be held. If they fail to agree, the court then fixes the place.

Additional means of enforcement are provided, under which the Secretary can seek an injunction instead of proceeding by seizure. It is claimed that this method will avoid multiplicity of actions and needless expense to both the government and manufacturers. The bill provides for more severe penalties than under existing law. Under the latter, the maximum penalty for the first offense is $200 fine; for the second offense, $300. Under the new bill the maximum is $1,000 fine and one year's imprisonment for the first offense, and $10,000

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ELECTRIC SHAVE COSMETICS

At a time when it is estimated that the sale of electric razors has reached the two million mark and that another two million will be sold between now and January 1, 1938, the first of the electric shave cosmetics enters the market. Appropriately enough, the company which introduces this first product in a new field is one which has some stake in the diminishing shaving cream market and an established position in men's cosmetics. The company, of course, is Pinaud, and the product. "Set-Up," which Pinaud believes will re-create sales being lost at the toilet goods counter due to the increasing use of the electric razor.

If four million electric razors are in use next year it means that a potential market for some twenty million tubes of shaving cream no longer exists. This potent and growing force has had manufacturers of shaving preparations worried for some time. A lower price on electric razors is inevitable and when that time comes the number of users will increase more rapidly than at present relatively high prices. Which makes the future for shaving preparations even darker.

Now to lighten the gloom comes the first of what will undoubtedly develop into a whole new field of cosmetics for electric shavers. According to C. S. Davis, Pinaud sales manager, Pinaud should sell a million bottles of "Set-Up" before January 1. He points out that "Set-Up" retails for $1, lasts about as long as a tube or bowl of shaving cream, whose average retail price is considerably less. Pinaud believes that the retailer will welcome this development with glee, for despite the high unit profit on the electric razors, Pinaud thinks that most retailers have been resenting mounting lost sales of shaving preparations. Judging from the chorus of approbation rising from electric shave manufacturers, they may think so, too, even though one of their strongest sales arguments to date has been the end of fuss and bother and incidental shaving expenses, which accompanies the purchase of an electric razor.

Of course, there are other, perhaps more compelling reasons why electric razor manufacturers are glad to see "Set-Up." One of the chief obstacles to wider sale and *the* chief obstacle to satisfaction after purchase, has been the poor shaving results obtained with the electric razor for the first two or three weeks after switching from the straight-edge razor. Electric razor manufacturers have had to emphasize continually that there might be dissatisfaction for two or three weeks because that period of time is required to accustom the skin and hair to the new shaving method. They have explained that through years of shaving the hair developed a tendency to grow at an angle instead of growing straight out from the skin. The electric

(*Continued on page 354*)

KNOWLEDGE OF VITAMINS

By A. RICHARD BLISS, JR.

THE VITAMIN B COMPLEX

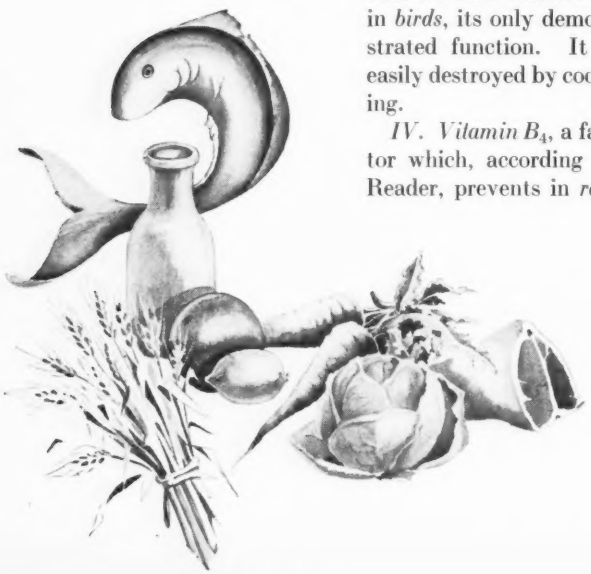
THE first suggestion that the so-called "water-soluble vitamin B" might be a complex of more than one vitamin was made in 1919 by Mitchell. The fact that the antineuritic factor could be destroyed by heat without removing the growth promoting value from the natural sources of this vitamin enabled investigators to demonstrate the existence of more than the antineuritic factor. The vitamin B complex is now considered a group of water-soluble factors, and may be presented in this manner:

The Vitamin B Complex

I. Vitamin B or B_1, the *antineuritic-antiberiberi factor. It is the only one of the B factors which has as yet assumed an important place in therapeutics.*

II. Vitamin B_2 *or G*, a flavine compound essential to growth in the *rat*, and preventive of a dermatitis which results in the animal losing all hair from the head and legs and developing a marked roughness of the skin, known as the "*antidenuding factor.*" It is less easily destroyed by cooking than B_1, and is *not* in itself a preventive of or a cure for human pellagra.

III. Vitamin B_3, a factor necessary for weight maintenance and restoration in *birds*, its only demonstrated function. It is easily destroyed by cooking.



IV. Vitamin B_4, a factor which, according to Reader, prevents in *rats* the development of muscle weakness, spastic gait, and a tendency to sit in a hunched position. It is easily destroyed by cooking. *Note:* It is a question as to whether this is a separate factor. B_4 deficiency resembles a state of chronic deficiency of B_1, and can always be cured by adequate doses of B_1.

V. Vitamin B_5, the heat *stable*, weight maintenance factor for *birds*, and said not to be destroyed by cooking. *Note:* It is provisionally known as a separate vitamin.

VI. Vitamin B_6, the factor necessary to prevent, in *rats*, the development of a symmetrical dermatitis called "*rat pellagra*," or "acrodynia."

VIII. P P Body, the factor preventive of *human* pellagra (Goldberger). It was originally thought identical with B_2 or G, but has been demonstrated to be different from any of the other factors. It has not, however, adequately clarified the problem of human pellagra.

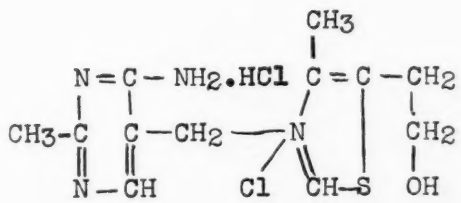
Vitamin B or B_1

The first successful synthesis of vitamin B or B_1, as we know it today, the antineuritic-antiberiberi vitamin, was announced in July 1936 by R. R. Williams, but the first isolation of this vitamin in pure form was accomplished by Jansen and Donath in 1926-27. The most interesting fact in the chemistry of the vitamin is that it is actually an amine as claimed by Funk in 1911. Wheat germ and yeast are the richest natural sources of vitamin B_1. In the seeds of plants the storage of this vitamin is mainly in the seed coats and the embryo, and, the removal of the bran and embryo from wheat, as for example in the manufacture of "white" flours, results in a decided loss of the vitamin. Common stables which provide abundant sources of vitamin B_1 include eggs, green leafy vegetables, fruits, and certain whole grain cereals. Milk is not as abundant a source of this vitamin.

Vitamin B_1 seems to be composed of an ethylpyrimidine molecule united to a pentacyclic N-C-C-S-C ring. Below is given the structural formula assigned to

"Only one of the vitamin B complex factors has as yet assumed an important place in therapeutics---Vitamin B or B_1."

the chloride. The formula for the *free* base is probably $C_{12}H_{16}N_4OS$.



The natural chloride melts at 246° C., the synthetic chloride at 232-234° C., and the mixed melting point is 242-244° C.

Vitamin B_1 is destroyed by high temperatures, the destruction being accelerated by heating with an alkali, but is little affected by oxidation. It may be lost mechanically in preparing food, or by discarding the water in which food is soaked or cooked. Actual destruction in ordinary cooking or canning is likely to be relatively small unless the natural acidity of the food has been reduced by adding an alkali. The sulfuring of foods is said to reduce the B_1 content.

The League of Nations has provided a reference sample for the assay of vitamin B_1 prepared by adsorbing vitamin B_1 on Fuller's earth. Ten milligrams of such a preparation is considered to show one International Unit of vitamin B_1. The ideal reference standard is the pure crystalline vitamin itself. When simplified, inexpensive, more reliable assay methods are devised, the accurate labeling of vitamin B_1 potency will be more practicable and satisfactory.

The American Medical Association Council on Pharmacy established human needs at 50 International Units for infants, and up to 200 units for adults. Waterman and Ammerman report the following equivalents: 1 International Unit=0.005 mgm. crystalline vitamin=2 Sherman-Chase Units. The Sherman-Chase Unit represents the amount necessary to produce 3 grams gain in weight per week in rats when the supply was the sole source of vitamin B_1. There is no evidence of harmful effects from excessive doses of this vitamin.

Allowable claims for vitamin B_1 function have been stated by the Council on Pharmacy of the American Medical Association as follows:

1. May be cited as of value in correcting and preventing absence or loss of appetite—anorexia—of dietary origin in certain cases.
2. Of value in securing optimal growth in infants and children.
3. Of value in correcting and preventing beriberi.
4. Because it is a dietary essential its administration in concentrated form is of value in some conditions where difficulty in utilizing ordinary foods in the usual way is encountered.
5. There are many experimental indications in the literature indicating other possible functions of vitamin B_1, e.g., an influence on intestinal motility and neuritis of various types, and also indications of greatly augmented requirement when metabolism has increased, as in hyperthyroidism, neuritis of various types, and infection. *It seems too early to permit advertising claims for these items.*

Between 1891 and 1910 there were about 10,000

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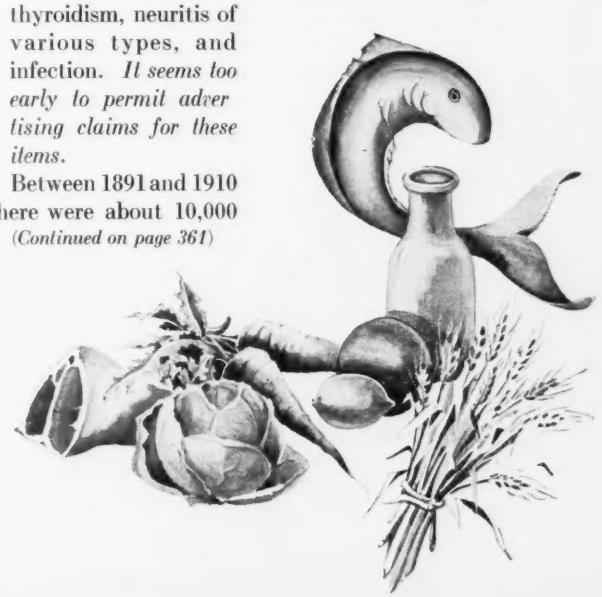

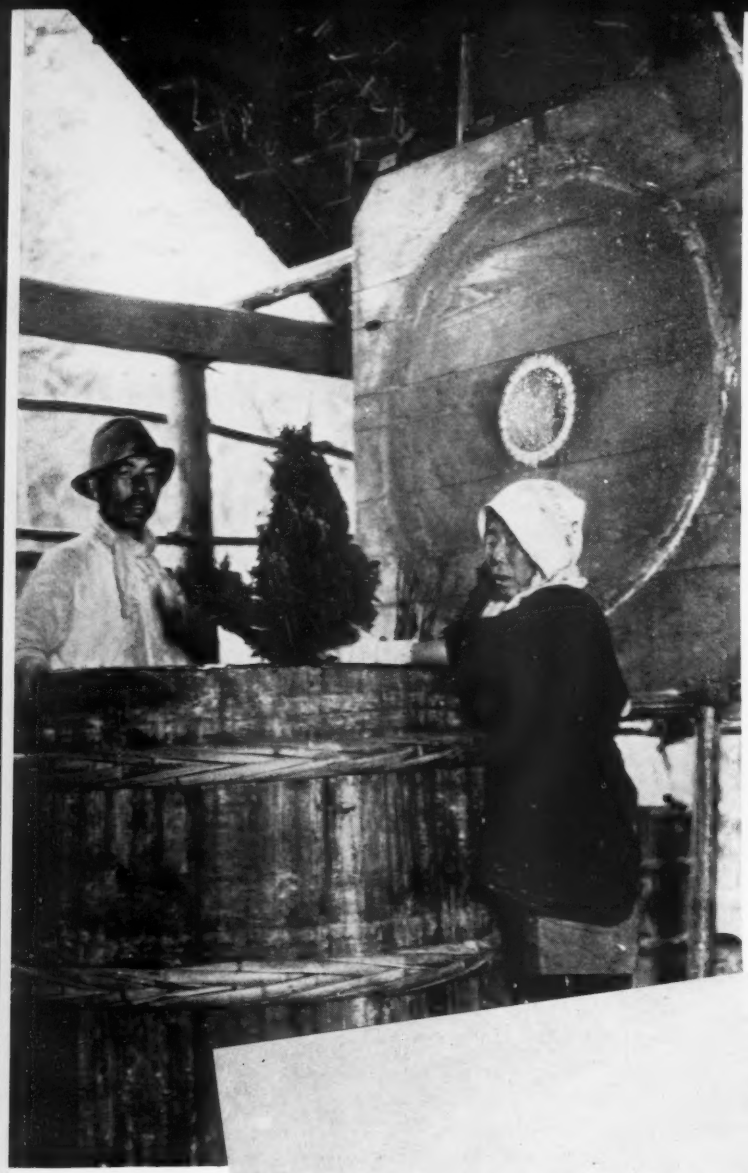

RAW MATERIALS OF THE FAR EAST

THE drug and cosmetic industry is dependent entirely on China and Japan for many raw materials that are produced exclusively in those countries. Among the most important of these are ma huang—the raw material from which ephedrine alkaloids and salts are made—anise oil, cassia oil, camphor and camphor oils, menthol, agar, Japan wax and rhubarb root.

With an undeclared, but none the less vicious war being waged between these two countries, the situation as far as adequate supplies of these basic raw materials are concerned is causing considerable uneasiness on the part of dealers and manufacturing consumers. Although the war in China is quite young, a stringent shortage has already developed here particularly in ma huang and anise oil and prices have advanced sharply.

The shortage in ma huang, however, is not entirely due to the present war but is rather aggravated by the war. Production of ma huang in China last year was poor. Shipments from Tientsin have been increasingly irregular ever since January of this year and as the season advanced the shortage became alarming.

At the top of the opposite page is shown a native of Japan packing a native menthol still. Below the menthol still is shown the bailing of Ma Huang in China. At the lower right of the opposite page is shown a native of Japan chipping camphor wood for the distillation of camphor. Below are shown natives of Japan packing agar agar in baskets prior to its being bleached.

The reason for the crop failure is not definitely known. The crop was not only short but the quality of ma huang produced last year was inferior in that the ephedrine content was low. This is a serious factor as the yield is normally only .6 per cent of ephedrine and 1.2 per cent of total alkaloids.

Some factors in the spot market are asking as high as 15c per pound for ma huang and further state that in view of conditions it is worth any price quoted. The increase in the cost of ephedrine based on the higher raw material price figures at $1.25 per ounce. Leading manufacturers of ephedrine preparations have therefore found it necessary to advance their quotations on ephedrine alkaloid to $2.80 per ounce in 1 oz. bottles and to $3.30 per oz. in ⅛ oz. bottles. Ephedrine hydrochloride and sulfate are also materially higher at $2.50 per oz. in one ounce bottles and $3.00 in ⅛ oz. bottles. Manufacturers have also reported that supplies are so limited that quotations are made without commitment and in fact one large manufacturer is limiting shipments to 12 ounces per week per customer.

Imports of ma huang into the United States during 1936 amounted to 1,000,249 pounds. This would make possible a production of 96,016 ounces of ephedrine during 1936. Import statistics are available only for the first five months of 1937 and indicate that during that period the United States obtained 399,891 pounds of ma huang which would normally yield 38,389 ounces of ephedrine. Based on these figures it is possible to estimate the shortage for this year as approximately 25,262 ounces of ephedrine. This figure may prove very conservative as shipments of ma huang now seem to have stopped entirely and it is impossible to predict when resumption of normal trading conditions will be possible.

Ma huang is produced only in the Provence of Kansu in China and nowhere else in the world. It is brought down the Hoang Ho river for about one thousand miles to the shipping port of Tientsin. Tientsin is in the area of considerable fighting. It has been captured by, and is now under control of the Japanese. If there were any supplies of ma huang available in Tientsin it is logical to assume that the Japanese—in need of money to carry out their war plans—would ship it out. The fact that no shipments have been forthcoming is further evidence of the total absence of supplies there.

The 1937 crop of ma huang, when, as, and if collected, and shipped, cannot be expected to arrive at Tientsin before October-November, which would mean December delivery of new crop here. Even should the war come to an abrupt end, almost half a year must elapse before receipt of a new ma huang crop. Should the Japanese continue in control of

(*Continued on page 351*)

PERFUME PARADE

THE Fall season again brings with it a gay galaxy of perfume presentations which will add sparkle to the season's elegance in attire and furs. Not only are the perfumes themselves intriguing, but the bottles and packages are magnificent.

An outstanding example of this packaging magnificence is Lucien Lelong's newest achievement for 1937, "Impromptu." Its fragrance is impromptu in the French sense of that word, ready, eager, with spontaneity that seems to sparkle in the flacon. The style of the box is modern and extremely smart. Against its gray background three sun motives burst down its sides. In the flacon, the sun-burst effect is used in crystal—in the stopper and in the pedestal of solid glass which supports the golden liquid.

Daggett & Ramsdell's "Sonata" is an entirely new venture for this firm in the perfume field. Sonata is a combination of harmonious odors in which the predominant perfume note has been modified and transformed into an illusive fragrance which may well be compared with the subtle musical compositions of the great masters. The graceful flacon carries a small label with the name "Sonata" written across a music staff surrounded by musical notes, giving it a decidedly musical air and making a very effective presentation.

Hudnut is presenting "R.S.V.P." a new romance perfume with a heady fragrance—a French "bouquet" with a flirtatious undertone that makes it a perfume after a man's heart. Hudnut points out that the name has the advantage of being pronounced without embarrassment by customers, especially men who are least familiar with perfumes. The shape and detail of the package suggest the envelope of a billet-doux and with its Richard

Hudnut seal inscribed with simplicity, makes a most appropriate package for the perfume.

Lentheric has caught the personality of its newest perfume in the one word "Anticipation," for it has a lilting theme that stirs up hope and buoys the spirit; as defiant of analysis as the emotion for which it is the symbol. Anticipation is presented in a white leather covered box, satin lined, closed with a chaste gold clasp. The flacon is also graceful and simple in its lines and has a plain gold cap to match the clasp of the box. Only two sizes are available—2¾ and 6 ounce.

"Central Park" is the name chosen by Maison Jeurelle-Seventeen for its Fall perfume presentation. The spicy carnation odor, like the name itself speaks of sophistication—cocktail parties and evening clothes. The bottle is definitely modern with a wide base which will have no trouble standing on milady's dressing table, tapering to a white molded cap. The box in white and burgundy, with modern lettering completes the package.

"Pretexte," a fresh provocative perfume is the first perfume to be presented by Lanvin in three years. The fragrance is rich and unusual. It has a modern quality which is both bittersweet and tempting. Pretexte has a lucid greenish-amber tone and is bottled in the spherical flacon with the gold leaf knob

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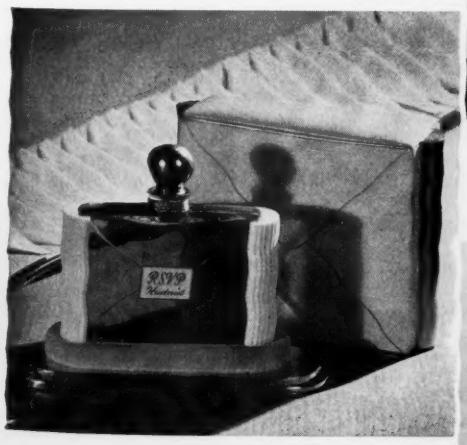
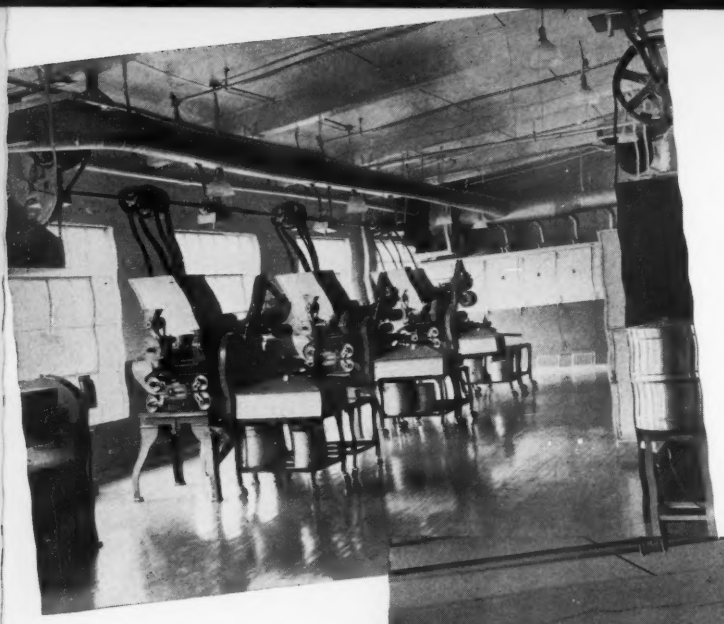
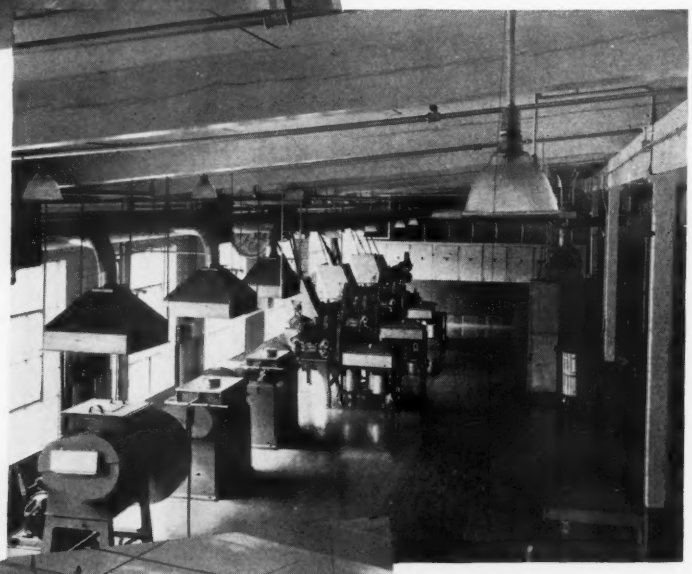
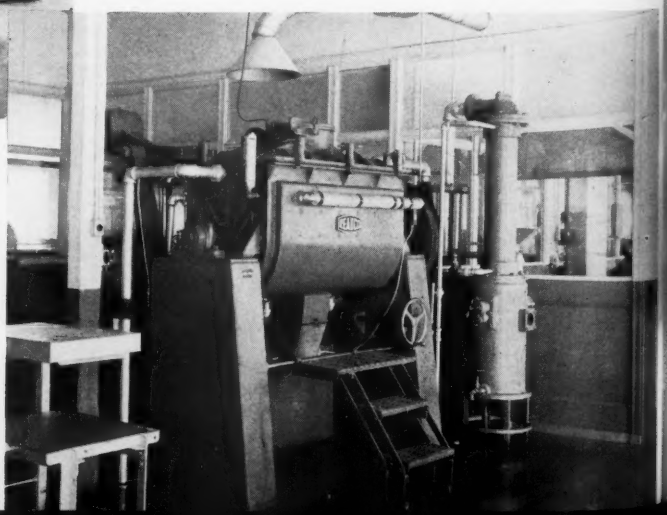


NORWICH'S





Starting at the upper left is a view of the automatic pill machines; below this the granulating department showing various types of mixers and dust control hoods; below this are the granulating mixers; then the specially designed unit for mixing, drying, and granulating vitamin products. Following across to the opposite page are the tablet compressors; the coating department; and finally a close-up of a coating pan, showing the arrangement of air delivery and dust exhaust.



NEW TABLET PLANT

By FRANCIS CHILSON

THE effect of a well conceived modernization program can be observed in the new tablet department of the Norwich Pharmacal Company, which was the first of the departments to be completed under the company's general improvement program. One of the effects of a modernization program is the saving made possible by the consolidation of departments. In the case of the Norwich Pharmacal Company, for instance, the tablet, pill and coating departments formerly occupied a total of 28,000 square feet of space which was scattered on three floors of two different buildings. The new department, which has much greater potential capacity than the old one, occupies approximately 11,000 square feet of space on one floor. Thus, the first result of the modernization program was to reduce almost by two-thirds the space devoted to the production of pills and tablets, while at the same time infinitely increasing the flexibility and productive capacity of the department.

The first impression a visitor gets on inspecting the new set-up is the bright hospital cleanliness of the entire department. The smooth wooden floor is painted light gray and finished with lacquer. Partitions are of steel and glass, completely sound proof. The color scheme of this department, and of the entire plant as well, is blue-gray, white and aluminum. The overhead portion of the department is painted white with all piping and fixtures in aluminum. The lower part of the walls and partitions is painted in blue-gray with an aluminum floor

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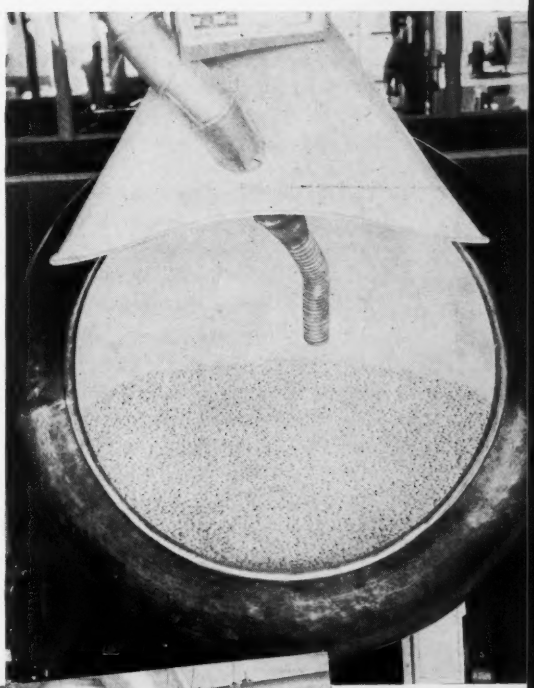

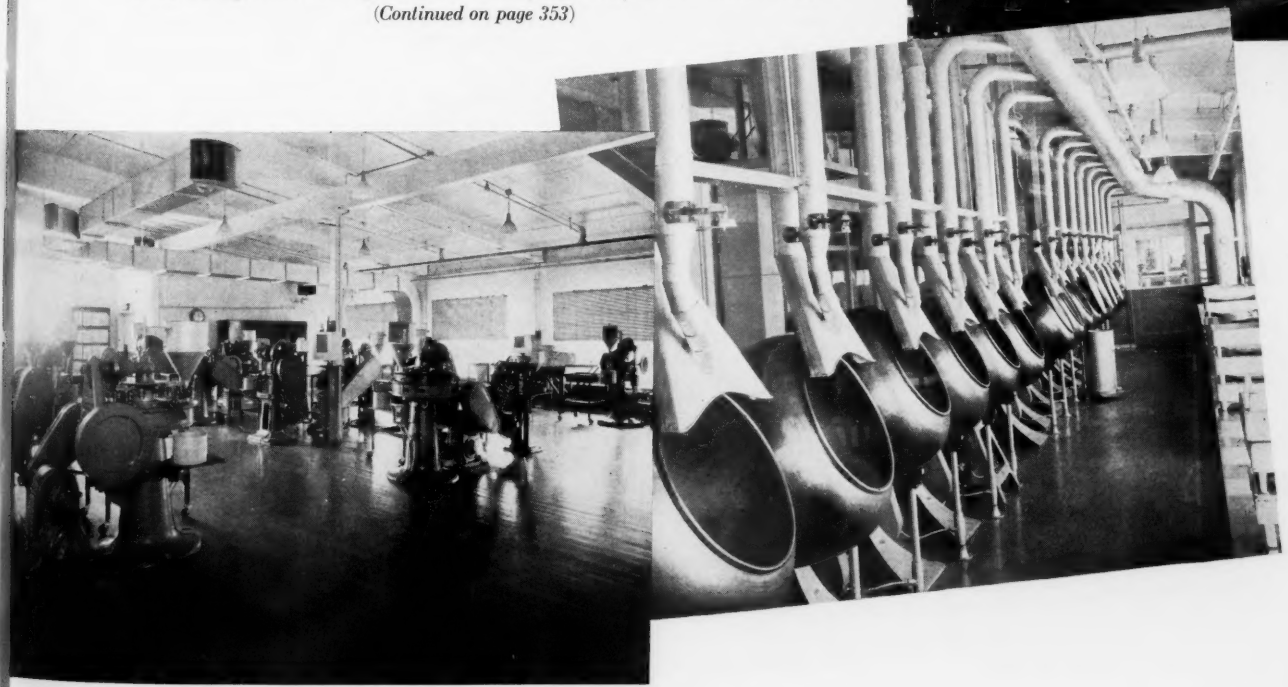

TESTED FORMULAS

Since water softening is a very important function of one type of bath preparations—bath salts—a few words on the subject of hardness of water and its removal should not be out of place at this time. All water which has run through or over the ground picks up various salts, of which calcium and magnesium salts are responsible for hardness. Now compounds of both of these alkaline earth metals will react with the soluble alkali salts of fatty acids (soaps) to form the insoluble calcium or magnesium salts of the fatty acids which have no lathering or detergent power. This results in a waste of soap, which is very important in laundries, which install various types of water-softening equipment. This loss of soap is less important in the household, but the properties of the lime and magnesium soaps make it imperative to prevent their formation. These non-cleansing soaps are colloidal and sticky and often dark in color and adhere to surfaces with which they come in contact. Hair is thus left with a dull and sticky coating which must be removed by means of an acid rinse; the skin cannot be as smooth and clean as it otherwise would be without this adherent deposit.

If, however, the water is previously treated with chemicals which convert soluble lime and magnesium salts into insoluble, non-colloidal compounds, the formation of the corresponding insoluble soaps is prevented. These insoluble compounds are calcium and magnesium carbonates, borates, phosphates, silicates, etc. which settle as very fine powders and do not form an unpleasant deposit.

Compounds most often used for water softening are sodium carbonates, borates, phosphates, and silicates. The last have not found application in bath preparation because they do not conform to general requirements to be enumerated and described later.

The water-softening properties of a number of compounds under set conditions has been tabulated. The water had a hardness of 20 parts per 100,000 (in terms of calcium carbonate), was treated with the softening compound, and then tested for hardness again. The lower the final figure, the greater the efficiency in softening water. Calcium bicarbonate is responsible for temporary hardness (removed by boiling the water) while the other compounds cause permanent hardness.

Reagent	*Calcium Bicarbonate Room temp.*	*Calcium Chloride Room temp.*	*Calcium Chloride 60°C.*	*Magnesium Sulfate Room temp.*	*Magnesium Sulfate 60°C.*
Sodium carbonate.....	1.75	1.5	1.25	20.0	15.5
Sodium sesquicarbonate.	5.25	4.75	3.50	20.0	20.0
Trisodium phosphate...	3.5	1.25	1.0	10.5	8.0
Sodium metasilicate....	2.25	18.5	16.25	3.0	1.5
Sodium silicate.....	6.5	18.5	17.5	19.0	11.0
Borax.....	6.0	20.0	20.0	20.0	20.0
Sodium metaborate.....	3.25	20.0	18.0	20.0	17.0
Sodium thiosulfate.....	20.0	20.0	20.0	20.0	20.0

Sodium carbonate is thus most effective for temporary hard water, the carbonate and phosphate are best for permanent hardness due to calcium salts, while sodium metasilicate is the best reagent for removing soluble magnesium salts.

Nevertheless, water-softening power is not the only, nor even the determining factor in the choice of bath salt material. The qualities to be sought in bath salts, aside from water-softening ability are attractive and *fast* color and perfume, easy solubility in water, attractive crystal structure, stability of structure, reasonable cost, and mild action on the skin.

Sodium thiosulfate, as well as rock salt, is of little value in bath salts, since it has no water-softening powers and is used only where low cost and ease of manipulation are the only factors to be considered.

Sodium carbonate is available in three forms, as the anhydrous soda ash, crystalline monohydrate, and the decahydrate or washing soda. Soda ash is an uninteresting powder with a tendency to absorb moisture and is apparently not used. Washing soda is sold in a variety of crystal sizes and, as the cheapest of the carbonates, is quite popular. It dissolves rapidly and completely in water and forms an attractive product. It is, however, not stable. In dry air it gives up moisture and the individual crystals become coated with a white powder of the monohydrate. An air-tight container and a coating of a hygroscopic liquid, such as glycerine or one of its less expensive substitutes, prevent this trouble. Of more importance is the fact that washing soda crystals melt and dissolve in their own water of crystallization at temperatures higher than 90° F.

BATH PREPARATIONS

By JOSEPH KALISH

which are not uncommon in our summers. The contents of the bottle then either cake or run together into a most unsightly mess.

The monohydrate, also available in several sizes of rounded crystal agglomerates quite attractive in appearance, is quite stable under all ordinary conditions, neither losing moisture nor caking. It dissolves under conditions of use about as well as the decahydrate.

The phosphates, di- and trisodium, have been recommended on the grounds of their water-softening powers, but the tri compound has the disadvantages of washing soda at a higher price. The disodium compound is less alkaline but much more expensive.

Trisodium phosphate and the sodium carbonates are much too alkaline in their reaction to be considered the best compounds for use in the bath. It has been said that in the proper concentration they are not likely to be harmful to the skin and this may be immediately true. Nevertheless, many skins are sensitive to even relatively low concentrations of alkali and the good work done in formulating non-alkaline cosmetics and in the superfatting of soaps to reduce alkalinity should not be counteracted by the use of unnecessarily alkaline baths.

For this reason, sodium sesquicarbonate has come to the fore as a favored material for bath salts. It is a chemical combination of equimolecular proportions of sodium carbonate and sodium bicarbonate and contains two molecules of water of crystallization. The crystals are small, attractive needles and are very rapidly soluble. As shown in the table above, it is a good general water softener. Moreover, the crystals are completely stable under atmospheric conditions and will not cake. Because of the presence of the bicarbonate, it is much less alkaline in reaction than the sodium carbonates.

The silicates are generally highly alkaline and do not lend themselves to the preparation of bath salts. They are most useful in industrial water softening and as detergents.

Borax is of low efficiency in softening water, but it is a very mild alkali, has detergent power, and the crystals are completely stable. Good crystals are not easily obtained.

If we are to judge from the success of bath oils, perfume is at least as important as water softening ability in a bath preparation. Choice is limited, in bath salts, to soap perfumes, since these are compounded to be stable to alkali. Nevertheless, since the alkalinity of bath salts is generally greater than that of soaps, the perfume chosen should be carefully tested for discoloration and permanence before the finished preparation is marketed.

Color must also be carefully selected for stability to alkali and to light and it is a matter of personal preference whether enough is added merely to tint the crystals or to color the water. As a compromise, some of the powdered dye may be mixed with the tinted crystals, in order to color the water without making the crystals unduly dark. Because of the reaction of the bath salts, choice is limited to the basic dyes which, as a group, are renowned for their brilliance and their instability toward light.

Perfume is added, in alcoholic solution, to the crystals in a mixer after color has been applied. One of the best suggestions for the application of color involves the use of insoluble lakes. These are available as bright, light and alkali stable powders. They are finely ground with a mixture of glycerine and water or a gum solution and then mixed with the crystals. Lakes should be selected which do not leave a ring in the tub. The perfume solution is mixed with the tinted crystals and finally the soluble dye for tinting the water may be added in the form of a dry powder. The soluble and insoluble colors may be the same or different.

It is not to be understood that bath salt bases described must be used individually; there is no reason, for example, why mixtures of borax and sodium sesquicarbonate cannot be made to combine the best features of both.

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MODERN COSMETICS

Being close to the industry, those engaged in manufacture of cosmetics are not able fully to appreciate the many advances made in products within recent years. Here is presented a proper perspective of the rapid advance.

BY BEING too close to an object for a period of time, perspective becomes falsified, near features becoming disproportionately large at the expense of further, more important ones. It is most important to stand at a distance at intervals in order to obtain a true picture.

We are all close to cosmetics; we know what they can do; we are often impatient of exaggerated claims of virtues and equally exaggerated attacks; we sometimes become a little bored by the apparent sameness of formulas that come our way. We step to a distance to survey the field and are pleased and a little proud of the real progress that has been made in both formulation and manufacture in this still quite young industry.

Progress has necessarily been much more marked in the technology of making cosmetics than in the physiology of the skin, the latter being a very difficult study. The application of vitamins and hormones may still be controversial, but a state of controversy is merely indicative of a state of wakefulness. The knowledge that the normal skin surface is slightly acid in reaction has become widespread and cosmetics are increasingly being formulated with this in mind. Slowly but surely this type of knowledge is increasing, especially with the entrance of some of the more enlightened dermatologists and biochemists into the field.

Products themselves are visibly better than they were even a very few years ago. Some of these changes relate to improved methods leading to easier manufacture, others lead to generally improved preparations.

In face powder, natural organic products such as the starches have virtually disappeared. Orris root, despite loud and uninformed outcries, has completely disappeared in this application. New bases are available to increase adhesion of the powder to the skin without making the powder too visible. Sifting and grinding, especially a process which rapidly and completely reduces particle size beyond previous limits, have been so improved that there is no excuse now for a non-homogeneous powder. A powder base, sold in colored form, can be used either alone, requiring only the addition of perfume, or can be mixed with any desired amount of talc. Ingredients themselves are of high quality, abrasive impurities being eliminated.

Creams have undergone considerable changes, and, with the application of contemporary emulsion theory, can be made in almost any desired form. Glyceryl monostearate, as an example of a class of raw materials, has made the preparation of the most diverse types of oil-in-water creams a routine and fool-proof procedure. Stability has also been assured by the use of raw materials of this type. Absorption bases have become important in formulating water-in-oil type creams which formerly could only be made by means of lanolin. Individual new waxes, emollients, emulsifying agents, etc. have all added their bit in the direction of improved cosmetics. Homogenizers and colloid mills, still not used as extensively as they should be, have produced creams of undreamed-of smoothness and stability. Newly discovered antiseptics and preservatives have contributed their share toward retaining cosmetic preparations in their original condition without increasing the likelihood of irritation of the skin.

Homogenizers and new emulsifiers share the credit for the increasing popularity of liquid creams which are stable, easy to use, and contain a minimum of inert ingredients. As part of this group, hand lotions are now less likely to consist solely of aqueous gum solutions of little actual value and generally include carefully selected emollients useful in keeping the hands soft.

Dentifrices are now made with carefully selected abrasives and detergents calculated to cleanse the teeth thoroughly without in any way harming them.

Shaving creams, when made with the full knowledge now available, are soaps of the highest quality, formulated to soften the beard quickly and effectively without in any way irritating the face. Brushless shaves can now be made with an ingredient that retards corrosion of razor blades.

Increasing consciousness of the necessity of using deodorants has led to increased demand which, in turn, has resulted in preparations that are more pleasing and easier to use.

Notable progress is obvious in the field of sun preparations. First they were virtually ineffective oils; later, the addition of efficient ultra-violet light filtering compounds made then practically indispensable. The latest tendency is in the direction of non-greasy creams and lotions which are far more pleasant to use and wholly effective. The search for new screens has been and continues to be intensive; each product that shows promise is exhaustively tested for its ability to do the required job without adversely affecting the skin surface.

Shampoos have changed from the drastic, alkaline soap solution they once were to mild but effective preparations of crystal clarity. The application of completely neutral detergents which do not react with hard water has been one of the most recent and widely accepted advances in this field.

The permanent waving process is showing the results of the large amount of research done. The machineless wave, making the operation much less burdensome to the woman, is a definite advance. Solutions containing oils, as well as those less alkaline in nature than the old ones, keep the hair in better shape. Chemicals for home hair waving, without machinery, are a recent development.

Nail polish has gone far beyond the first crude tinted solution of celluloid in acetone and now is a specially formulated, well balanced lacquer with a minimum of unpleasant odor, and a film that is flexible and long-lasting.

Advances have come from two directions—from the suppliers of raw materials (and we include suppliers of machinery in this category) and the makers of finished cosmetics. The final happy combination will include greater cooperation from those who can find out and tell us what goes on at the skin surface and below.

Raw Materials of the Far East

(Continued from page 343)

Tientsin it is not likely the Chinese collectors would ship the new crop material into their hands. Overland routes to southern ports would certainly increase the price to such an extent as to make it almost prohibitive.

A synthetic ephedrine has been developed in Germany but production costs are said to be five times that at which ephedrine can be made from ma huang at normal prices.

The situation in anise oil is no less acute than that in ma huang. Prices on spot have been advanced 25c per pound, this material now being quoted at from 95c to $1.00, the highest price to be reached since April, 1930. The scarcity in the spot market is such that a five gallon lot could be purchased at a lower per pound basis than the drum price. This is placing a premium on quantity sales as dealers are not at all anxious to sell in drum lots.

The quality of anise oil is also poor. A 15° congealing point is the basis on which anise oil is acceptable. This indicates the anethol content, and it is reported that most material offered for shipment contains anethol content of from 14° to 14½°. It is stated this is the first experience importers have had with anise deficient in anethol content. Shippers in Hong Kong offer the oil for what it is. As there is considerable discrepancy in the oil offered, however, importers are afraid to purchase the deficient material for fear of future offers of good quality oil which would make it difficult to dispose of the low content oil. In view of the extreme spot shortage it might be possible to obtain special consent of the Department of Agriculture toward release of small lots of deficient material but this also presents obstacles.

Anise oil also comes from the interior of China, the shipping port being Hong Kong. This seaport is too far south to be directly affected by the fighting in the north but the effects of the war are being felt in this item nevertheless. Japan has instituted a naval blockade of the China coast which has materially affected shipping. War risk insurance on cargoes loaded and unloaded at Chinese ports was discontinued on August 23 after a conference of world marine insurance interests at London, New York and San Francisco. This does not mean that all shipments from Chinese ports would be discontinued, but the price of anise oil will naturally reflect the grave risk involved in making shipments through troubled waters without insurance protection.

Higher prices are also being asked for shipping drums in China. Anise oil is shipped from the interior in second hand iron kerosene drums. There is now a tremendous demand for these drums for scrap metal to be used for war purposes.

As there is no item that will replace anise oil it is generally expected that prices will continue to advance and that the scarcity will not be relieved for a considerable time.

Rhubarb, used for medicinal purposes, also comes almost exclusively from China. This item has shown advances during the past month aggregating 15c per pound placing the spot market at from 50c to 55c.

Oil of cassia has not as yet advanced but the market at from $1.10 to $1.25 per pound is extremely firm. Stocks of this item have not been depleted to the extent of anise but it is generally anticipated that the market

will shortly reflect the difficulty in obtaining replacements.

It would seem that with the heavy war expenditures made by Japan and the already precarious state of finances in that country every effort would be made to increase export business so as to bolster up the long

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Bath Preparations

(*Continued from page 349*)

Effervescent bath salts consist of mixtures of carbonates with solid acids, tartaric acid being somewhat preferred because it is not hygroscopic. Bicarbonate should be used in the mixture because it liberates more gas per unit of weight, but some carbonate should be included for water softening. Sesquicarbonate is again useful. The carbonate should be in excess for water softening and to prevent an acid reaction which would affect the lathering power of the soap. For excess alkali, for 64 parts of citric acid or 75 parts of tartaric use more than 84 of sodium bicarbonate, 75 of sesquicarbonate, 53 of soda ash, 62 of monohydrated carbonate, or 143 parts of washing soda.

As in all effervescing mixtures, moisture should be rigorously excluded to prevent premature reaction. Starch of low moisture content should be used for coating the acid and alkali components separately. Both color and perfume should be applied in alcoholic solution or suspension to avoid unnecessary moisture.

Oxygen liberating salts are based upon sodium perborate. This substance will liberate oxygen only very slowly from its solutions under ordinary conditions, but the presence of a catalyst caused rapid liberation of gas. Small amounts of manganese sulfate or cobalt chloride in combination with potassium bitartrate will rapidly and smoothly liberate oxygen from the solution and will color the bath brown. Manganese borate is also used for this purpose as well as the filter press cake from the extraction of sweet almond oil and liver catalase. The residue after the liberation of oxygen will be borax or a metaborate, popular base for bath salts.

Bath oils are in the nature of a reaction from too harsh bath salts. They have little or no water-softening powers but do tend to leave a faint, oily film on the skin which counteracts excessive dryness. The emulsifying agent present is hardly sufficient to hold the insoluble soaps in colloidal suspension and prevent them from being deposited on the skin. Pine oils of very different qualities seem to be the outstanding favorites as the perfume, although there is no apparent reason why other odors cannot be used. The simplest bath oils are made by mixing the perfume with sulfonated castor oil, a light colored emulsifying agent being favored. A small amount of a vegetable oil may also be added to increase the milkiness in the bath and leave an emollient film on the skin.

The major point to be remembered in making oils of this type is the use of sufficient perfume oil; this will depend upon the type of oil used, but more than ten per cent. will generally be required.

Triethanolamine may also be used to make a bath oil. Perfume is dissolved in mineral or vegetable oil or a mixture of both, add oleic acid and then mix with triethanolamine. Definite proportions cannot be given since the amounts of both oleic acid and triethanolamine will vary according to the composition of the oils. Triethanolamine will vary from 3.5 to 4.0 per cent., oleic acid from 8 to 11 per cent. Formulation requires great exactness, and it is always necessary to derive a formula for the specific oil to be emulsified. Mix 88 parts of the oil with 8 parts of oleic acid until a clear solution is formed. Carefully measure 4 parts of triethanolamine into this solution and stir thoroughly. On holding the mixture up to the light it will usually be cloudy or show minute suspended droplets. Now add oleic acid drop by drop, stirring thoroughly after each addition until the mixture becomes clear. It will now emulsify in water, but a few more drops of acid will give a slightly better soluble oil. There is no reason why cholesterin, vitamins, etc., should not be mixed with the oil before solubilizing for additional value.

Foam baths seem to be primarily of psychological value, although some of the foaming agents used may have detergent properties and diluent salts may be similar in nature to medicinal salt baths. They consist either of powders or concentrated solutions of wetting agents with high foaming power. Powdered soap bark or saponin mixed with sodium sulfate and sodium lauryl sulfate are effective in this application. The preparation is placed in the tub and water allowed to run onto it.

Price Maintenance Now Legal

(*Continued from page 373*)

10. Retailer agrees and acknowledges that the value of Vendor's right to enforce minimum prices in the sale of The Commodities in the state of ....., in the locality in which Retailer does business, exceeds the sum of $5,000.00, exclusive of interest and costs, and that if Retailer violates this agreement, other retailers doing business in intrastate commerce in said locality, will also cut Vendor's minimum prices prescribed for The Commodities, and that said other retailers will refuse to handle or to display or to push their sale of The Commodities, thus injuring Vendor's business or goodwill in the sale of The Commodities, to an amount or value exceeding $5,000.00. Retailer also admits that a violation of this agreement by Retailer will injure the distributor or distributors or wholesaler dealer or dealers, who are doing business in the locality of Retailer. Provided, that a violation of this contract by Retailer shall not subject Retailer to damages in excess of those stated in Paragraph 5 herein, unless Vendor or its distributor or wholesale dealer can prove damages in excess of said liquidated damages, according to law.

11. Retailer agrees not to obliterate, deface, obscure, or otherwise tamper with any of the labels, serial numbers, or other identifying marks placed by Vendor on The Commodities, or on their labels or on their containers.

Executed by Retailer in the City and State of....., this..... day of ....., 1937.

(RETAILER)

.....

Accepted and finally executed by Vendor in the City and State of New York, this ..... day of ....., 1937.

(VENDOR)

.....

Norwich's New Tablet Plant

(*Continued from page 347*)

line. All the equipment is painted blue-gray to match the walls and partitions. All the men working in the department wear white shoes, white trousers, gray shirts and black bow ties. In the usual tablet department dust is every where prevalent, in this department there is none since every piece of equipment is fitted with a hood which is connected with the general dust collecting system.

As one enters the department, the first section through which he will pass is the formula department. The formula department forms the nucleus of a series of storage rooms in which materials of every conceivable kind are stored. The flow of production through the department is in the form of a "U," having its starting point at the formula room where the various tablet formulas are weighed out. This same formula department, incidentally, serves the entire plant as well as the tablet and pill department.

When the formula for a particular product has been assembled, weighed and checked, the various ingredients are loaded on specially designed table-trucks. These table-trucks are designed with a lower shelf for barrels and they have a smooth top on which the minor ingredients in labeled bags are piled. Each truck is pushed to a definite place in the adjacent granulating department where they remain until wanted, after which they are pushed directly to the proper mixer. Hence, the table trucks serve not only as a means of conveyance, but also as a work table on which the tablet maker can work while he is making up a batch.

After leaving the formula department, the next section the visitor will enter is the granulating department where conversion operations start. This department also contains automatic pill rolling machines, atmospheric pill driers and a group of mass mixers for making the pill masses. The manufacture of pills is an individual function and does not enter into the general flow through the department. The only place where the pills come into contact with the tablets again is in the coating department where both types of medication are coated.

The mass mixers of the pill department are laid out adjacent to the pill machines and also to a group of specially designed mass mixers which are used in the production of certain types of tablets. This arrangement avoids duplication of equipment because the various mass mixers can be used either for the production of pill or tablet masses as required.

The granulating department proper is equipped with mass mixers, dry mixers, vacuum mixers, portable granulators and dryers. The various mixers are arranged in straight line and each is connected with the dust exhaust system by means of hoods. When the ingredients of a lot are mixed, a portable granulator is brought directly to the mixer and the lot is granulated directly on trays which in turn are placed on portable dryer racks. Each rack is designed to hold a complete lot, although in the production of certain specialties which are handled in very large quantities, several racks are required. The racks are then transferred to dryers of the most modern type. These dryers are designed to provide close control of temperature, velocity and volume of air. Each compartment of the dryer can be individually controlled to suit the requirements of different kinds of granulation. This department, therefore, is equipped to produce every kind of tablet including vitamin tablet and effervescents. The vitamin equipment is designed to mix dry and granulate the material under controlled conditions that will permit no impairment of vitamin potency.

The dried tablet granulations are transferred from the dryers to lubricating rooms of which there are two, one for light granulation and the other for dark granulation—the physical separation of the rooms being designed to prevent any contamination whatever. Depending upon the size of the lot and the nature of the material, lubricating is done in several ways,—by hand, by means of mixers or by means of drums. Most of the granulation is lubricated in drums which also serve as carriers to the presses. The drum system utilizes standard petrolatum drums fitted with removable heads, and an ordinary drum washer on which the drum revolves. The dry granulation is sieved directly into one of the drums, the lumps being ground in an adjacent grinder. When the drum is loaded, the lubricating materials are added and the gasketed head of the drum is fixed in place. The drum is then turned on its side on the drum washer, which rotates it for a definite period of time. The drum of lubricated granulation is then transferred directly to the press on which the finished tablets are to be made. The advantages of this system in saving labor and dust is obvious.

The compressing department forms the base of the "U" layout. The presses in this department are of various types and sizes and are laid out on 9-inch centers to obviate contamination and mistakes and the entire department is dehumidified. At convenient places in the department tablet cleaners are provided so that surplus dust can be removed from the tablets before they are inspected. The cleaned tablets are fed into drums and transported to an ingenious inspection machine.

This machine consists of a feed hopper and a series of belts. The tablets are fed on to a belt in a uniform single layer, and as they pass the inspector, all chipped and imperfect tablets are removed. After the tablets pass the first operator they are carried between belts around a drum, during which process, they are turned over before they pass to another inspector. Thus both sides of Norwich tablets are carefully inspected. The inspected tablets are fed into drums again in which they are held for final assay by the control laboratories.

The compressing room has a series of small rooms partitioned off from the rest of the department for the

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New House Food and Drug Legislation

(Continued from page 338)

fine and three year's imprisonment for subsequent offenses.

The court review provision of the Senate bill has been deleted by the House Committee. This action is based on the idea that the existing right of court review takes care of the situation. This deletion is considered satisfactory by drug trade representatives. They point to a further provision added by the House Committee requiring that when the Secretary of Agriculture promulgates regulations he shall publish a complete statement of the facts upon which he relied in support of his action. If the manufacturer considers the Secretary's action prejudiced or frivolous, he may appeal to the courts and use as evidence a copy of the Secretary's statement constituting the basis of his regulation or decision.

Persons allergic to certain chemicals or ingredients in cosmetics are protected by a provision of the bill suggesting a primary test for coal tar dyes before the product is used as a hair dye. However, eye-brow and eyelash dyes are exempted, but they must be made by the manufacturer with coal tar products approved by the Department.

Drug, cosmetic, and therapeutic device factories will be subject to inspection, under the bill, but not required to obtain a federal license or permit. Manufacture or handling under insanitary conditions, where the article may be contaminated by filth, is prohibited. The use of slack-fill or other deceptive containers and poisonous containers is prohibited.

The sale of alleged dangerous articles is restricted. Special labeling is required for drugs liable to deterioration as well as habit-forming drugs. Label warnings are required against probable misuse. The so-called variation clause is changed to permit variations in strength only, rather than in strength, quality, and purity, as authorized by the present law.

Chairman Lea of the Committee has called attention to deletion by the Committee of what he calls the "fraud joker" from the present law applicable to patent medicine, which, he says, has caused the government great difficulty in prosecuting manufacturers. The Chairman's reference is to the present limitation of prosecutions to "false and fraudulent label statements." Under the provision it has been necessary for the department to prove that the manufacturer knew when he put out a product with a false label that it was false. In other words, the government has had to prove the mental process of the manufacturer. This is about as difficult to prove as collusion, conspiracy or perjury, which, as any lawyer knows, is decidedly difficult.

Although the new bill is not regarded as 100 per cent perfect by trade representatives, they say they sincerely hope that Congress next year will complete passage of drug and cosmetic legislation drawn along lines protecting the consumer without unduly injuring the manufacturers.

Electric Shave Cosmetics

(Continued from page 339)

razor, because of the cutting principle involved, needs to have straight-out hairs to work on for maximum efficiency. After two or three weeks, according to the electric razor manufacturers, the hair grows as it normally should—at right angles to the skin surface.

But long before that trial period has ended, dissatisfied users have been the rule and in many cases it is reported that returns averaged well over fifty per cent. Now, according to Pinaud and the electric razor manufacturers, "Set-Up" has removed the necessity for this "training period" in learning to use an electric razor. The value of a product which accomplishes this is at once obvious.

According to Pinaud, "Set-Up" works in the following manner. "It contracts the skin slightly. It raises the hairs of the beard (makes them stand out straight). In that position the electric razor clips the hair close to the face. It extends the hair slightly (pushes it out). It holds the hair in that position for about five minutes. Then the skin relaxes. As the skin relaxes the butt of the hair is contracted slightly. The effect is a shave that is smooth and close. It gives body to the hair, makes it easy to clip. It eliminates razor clogging as the hair drops from the razor as it is clipped. It eliminates razor burn that usually follows a dry shave. It eliminates the use of talc which the electric razor manufacturer recommends during Summer months."

That electric manufacturers are more than just verbally pleased with the new product is evidenced by the fact that several of them are negotiating with Pinaud to arrange for one-ounce samples of "Set-Up" to be included in every electric razor package. From Pinaud's viewpoint, of course, this resolves itself into the very best kind of sampling at the expense of the electric razor manufacturer.

Another thing which pleases Pinaud is the fact that "Set-Up" should take them into other than the customary cosmetic retail channels. Electric razors are sold by the usual retailers of toilet goods, but in addition they are retailed by men's furnishing stores, jewelers, tobacco shops, sporting goods stores, hardware stores, gift shops and other retailers off the beaten path. It seems entirely logical that "Set-Up," too, should be sold by these same retailers along with the electric razors, and, with "Set-Up" as the entering wedge, Pinaud sees no reason why some of the other members of the Pinaud line should not follow as well. At any rate, for the present, Pinaud is emphasizing to all retailers that if they want their electric razor sales to stay sold, they should sell "Set-Up" with them.

CYSTINE

By M. A. LESSER

ALTHOUGH the amino acids continue to hold a fairly prominent place in the research literature of the world, the importance of these substances has tended to become obscured to the average investigator and the public by the more highly spectacular materials such as the vitamins. Indeed, many forget, or never knew, that the procedures now employed in all types of dietary research were laid down by the students of the amino acids.[1] More recently the studies of the amino acids have received added impetus. It is being realized that these substances still remain basic essentials in all types of metabolism.

The amino acids are the units or fragments from which the protein molecule is built. The proteins, in turn, are the fundamental constituents of all living protoplasm. It is quite obvious then, that the amino acids are basic factors in body formation and maintenance. The proper adjustment of these amino acids are essential for maintaining the health and functioning of every type of cell. A knowledge of these materials is highly essential. There are twenty-two amino acids that are needed in an adequate protein diet. A few of these acids must be injected as food, since they cannot be synthesized by the body. According to Hawk and Bergeim[2] at least four amino acids are absolutely essential for normal development. These are: lysine, tryptophane, tyrosine and cystine. It has been said that without these major substances, life would be impossible.

The importance of cystine rests upon several factors. It is one of the four basic amino acids, and must be injected since it cannot be prepared by the body. It must be obtained from food sources. It is an essential growth factor. The keratins of the body, such as the hair, nails and other epidermal tissues, depend upon cystine for growth. Cystine likewise affects the texture, type and amount of hair produced. Of prime importance is the fact that much of the sulfur metabolism of the body is tied up with the amount of cystine obtained in the diet. Cystine is also of considerable importance in such pathologic conditions as rheumatism, renal calculi formation, cystinuria and perhaps, pellegra. Some investigators are of the opinion that cystine is intimately bound up with the formation of insulin, which contains sulfur.

Cystine was discovered by Wollaston in 1810. Chemically, it is di beta-thio-alpha-amino propionic acid, with the formula $C_6H_{12}O_4N_2S_2$, having an aliphatic nucleus. It has a levo optical activity. The characteristic hexagonal platelike crystals of cystine are very slightly soluble in water and alcohol, and insoluble in acetic acid. This amino acid is soluble in mineral acids or alkalis. Cystine, and another amino acid, tyrosine, are the only examples of these substances which are practically insoluble in water and this property is used in identifying and determining cystine. The similarity of solubilities of cystine and tyrosine makes their separation difficult when they are present together. Reducing cystine yields two molecules of cystiene. Cystiene is the most important derivative of cystine and is itself a valuable substance. The amino acids form few halogen compounds. Cystine is unique in that it reacts with bromine.

All proteins contain cystine in variable amounts, the largest amounts being found in meat, eggs, beans and whole wheat bread. Cheese, gelatine, corn, peas and lintels contain considerably less. Fish proteins contain less cystine than do meat proteins. Milk proteins are notably deficient in cystine[3]. Commercially, cystine is prepared as a decomposition product of keratin-containing tissues such as horn, hoof, feather and hair. Several methods of manufacture are described by Mitchell and Hamilton[4].

Sherman[5] considers cystine one of the nutritionally essential amino acids. He asserts that the lack of cystine in the diet may stunt the growth, but such a deficiency does not yield any pathologic body conditions. Some experiments with rats on a cystine deficient diet yielded interesting results.[6] Cystine deficiency unfavorably affects the appetite. The addition of only 0.24% of cystine to the diet increased growth and led to the storage of 10.8% more energy than in the

control rats. During fourteen weeks the cystine fed rats stored an average of 40.4% Calories more than the control rats. It has been pointed out that development and differentiation proceed better with a mixture of amino acids than with a single acid[7]. However, white rats placed on a diet deficient in cystine showed that abnormal growth of the rats resulted and that growth of the hair was adversely affected[8].

The relationship between the hair growth and the endocrine glands is more or less established and known. The connection between the nutrients in the diet and hair growth and composition are, however, not so well known. This information is essential to the dermatologists and cosmeticians. A good deal of knowledge has been accumulated. Hair, an epidermal structure, consisting largely of the protein keratin, is characterized by its high content of sulfur containing cystine. Cystine contains 26.67% of sulfur. All the hair sulfur is bound up in the cystine molecule. Human hair contains between 15.6% and 21.2% of this amino acid[9], the content being lowest in the Negro and Indian and highest in the red-haired White adult[10].

There is considerable practical and experimental evidence that the addition of cystine to the diet causes increase in the growth of hair. That the mere feeding of sulfur is not helpful in causing such hair growth was shown by the work of A. J. Deravlev[11], who fed rabbits 1 to 10 grams of sulfur without effect. The addition of ½ to 10 grams of cystine however, to the daily diet, increased the weight of the rabbit and the quality of the fur. The daily addition of only one gram of cystine to a low protein diet of sheep caused a 14% increase in the wool growth. This is being applied in many sheep raising areas.

Some investigators, using white rats for their work, are of the opinion that cystine additions are effective only in deficient diets. To quote one investigator[12], "While an addition of cystine to a cystine-deficient diet converts its effects on body growth, hair growth and hair composition, an addition of cystine to a diet possessing no such deficiency has no certain effect upon hair composition. The production of a super-keratinized hair does not seem to result from feeding of excessive amounts of cystine." Another group of investigators however, apparently disagree[13], "As regards total hair weight there can be no question but that the added cystine has caused a more rapid growth of hair, as it did of the total body tissues as measured in the body weight."

In 1920, Zuntz[14] used a commercial preparation called "Humagsalan," made by the hydrolysis of keratin, for the treatment of baldness. When hair grew, the beneficial results were attributed to the presence of cystine in the materials fed. The preparation was effective only in cases of baldness where the papillae of the hair had not been destroyed. Blaschko[15] verified this work. Fuhs[16] however, failed to achieve these results, which may explain in part, the lack of further exploitation of this product.

More recent work, however, at Johns Hopkins University is interesting. In 1935, G. J. Martin and R. E. Gardner[17] fed three sulfur-containing substances to hairless albino rats on a high starch diet. Rats fed glutathione grew no hair even after a month and a half of such feeding. Animals fed minute quantities of cystine grew hair within a month, kept it for a few weeks and then lost it. However, when cystiene, the reduction product of cystine, was fed another group of rats, they grew and kept their hair as long as they received cystiene. From these investigations it would appear that cystiene is more effective in creating hair growth than is cystine. The mass of data favoring cystine as the hair growth factor cannot be overlooked. It has yet to be determined if cystiene, as such, exists in the protein molecule. Nor can cystiene be formed in the body except from cystine. It would appear then that cystine must first be present before cystiene can be formed, and that cystine is the basic amino acid for hair growth. The problem of the relationship between cystine and hair growth and structure is not yet solved. Work done on rats and other animals have yet to be interpreted in terms of human values. The problem of baldness and hair texture still awaits further work. Cystine treatment offers possibilities, but the studies must be carried further.

From time to time in these experiments, the question has been raised as to which would suffer as a result of cystine deficiency, the growth of essential body tissues or the growth of the hair and other epidermal structures. Under experimental conditions, Lightbody and Lewis[18] found that the demands for cystine for the growth of hair appeared secondary in importance to the demands for growth in the body with its more essential tissues. However, later data contradicts this contention, as evidenced by the conclusions of J. R. Beadles and his associates[13] who say, "There is no indication that the demands of the more vital tissues for cystine have taken precedence over the demands of the hair follicles." The hair and tissue suffer equally from a lack of this substance.

The nails also contain cystine. Sullivan, Hess and others have shown that the sulfur content of the nails is almost entirely bound up in the cystine present. Since rheumatism is believed to be associated with the sulfur metabolism of the body, the cystine content of the nails is used to diagnose this condition. Persons suffering from this condition have a lowered cystine content of the nails. A similar condition is said to exist in cases of pellegra and is probably bound up with Vitamin B deficiency. Certain pathologic conditions, which result in ridging and drying of finger nails, were treated by Brown and Klauder[19] by feeding hydrolized wool, rich in cystine. Improvement was apparent in patients with congenital dystrophy of the nails. Cystine content analyses are of no value in such abnormal nail conditions according to these workers.

The cystine present in the skin plays an important role. In 1923, W. F. Ward[20] showed that cystine was

(*Continued on page 360*)

RESEARCH IN PHARMACY

Being selected abstracts of the many valuable papers presented before the A. Ph. A. Meeting.

Sodium Perborate Therapy, L. L. Manchey and S. Lee. In an effort to remove harmful effects attributed to high alkalinity from the use of sodium perborate in Vincent's infection and related conditions, pH-composition studies have been conducted with mixtures of sodium perborate and mono-calcium phosphate, the results of which proves that, within certain limits of concentration, phosphate rapidly and efficiently reduces alkalinity of perborate suspensions to within range of pH reported for saliva of normal healthy individuals.

Preliminary studies conducted on human subjects have demonstrated harmful effects to result from application to gums of sodium perborate tetrahydrate and also from diluted mixtures consisting of 30% of sodium perborate, in form of monohydrate, and 70% of inert tricalcium phosphate. Substitution of portion of tricalcium phosphate by sufficient mono-calcium phosphate in another mixture to deplete alkalinity of perborate, on other hand, gave no tangible evidence of untoward effects when similarly applied to test subjects.

Experimental data has been obtained on stability of mixtures in relation to mono-calcium phosphate content, in comparison with that of pure sodium perborate tetrahydrate (U. S. P.).

Colorimetric Vitameter and Biological Tests for Vitamin A, A. Black, R. D. Greene, H. L. Sassaman, and C. Sabo. Although the antimony trichloride color test and vitameter test have been widely used in recent years, there is still some doubt concerning their reliability as substitutes for biologic test. Literature on these tests has been very extensive but it is felt that comparisons with biological results have been limited.

In the present study, results of color, vitameter and biological tests of 115 samples of fish liver oils and concentrates have been included. There are 23 samples of cod liver oil, 27 samples of halibut liver oil, 49 samples of fish liver oil concentrate tablets and 16 other fish liver oils and concentrates.

Color test has given results which fall within limits of 20 per cent above or below biological results and which are within normal limits of accuracy of tests, in 90 per cent of samples while vitameter test has shown a similar agreement in 80 per cent. Thus, it would appear that color test may be possibly slightly more reliable than more extensively used vitameter.

In either test, however, there are results which fall outside limits of error, and indicate possible lack of specificity. For this reason, it appears doubtful that they may be accepted as substitutes for biologic tests, unless further refinements are made. Either test is very useful as supplement to biologic test and may reduce cost by reduction in number of doses. They also are useful for check purposes. Color and vitameter tests appear to be about equally applicable to different fish liver oils and concentrates.

New Enteric Coating, A. G. Worton, G. F. Kempf, P. L. Burrin, and F. E. Bibbins. An enteric coating involving use of powdered mixture of stearic acid, carnauba wax, agar, and elm bark with white shellac as binder is reported. Its distinegration is dependent upon ability of agar and elm bark to absorb moisture and swell, causing disruption of coating. Due to this moisture absorbing property of coating, definite relationship was established between disintegration time of given sample in vivo and in vitro, making it possible to establish laboratory method of control.

Modified Reddish Cup Technique For Liquid Antiseptics, Arthur H. Bryan. A visualized check test for germicidal activity of liquid antiseptics using technique modified from cup method for evaluating ointments. Phenol 1% is used for comparison to measure germicidal activity of other liquid antiseptics by comparative inhibition zones. Evaporation is prevented by sealing cups or using impregnated blotters. A tabulated list of U. S. P. strength antiseptics and disinfectants gives comparative inhibition zones indicated of germicidal value using data deduced from this modified technique.

Liquor Antisepticus, K. S. Howell, Louis Goldberg, R. K. Snyder, and E. N. Gathercoal. Discusses an incompatability developed during preparation of Liquor Antisepticus which is apparently physical in nature and occurs when eucalyptol above 0.02% is added to aqueous alcoholic solution of thymol or chlorthymol.

Formula for Liquor Antisepticus which is unchanged from official formula, except in proportion of certain ingredients, is offered. It presents no incompatibilities, is more highly antiseptic than present official solution, is not so acrid or pungent in taste yet preserves the same aroma, is less difficult to compound, and is less expensive.

The A. O. A. C. tentative assay for thymol has been used on solutions of thymol, and adapted to solutions of chlorthymol and Liquor Antisepticus.

An adaptation of the turmeric test for boric acid serves for qualitative and quantitative determination of boric acid in Liquor Antisepticus.

Triethanolamine Salts of Fatty Acids, George W. Fiero. Surface tension, pH, amount of foam produced, and emulsifying power of salts of triethanolamine are reported. Salts were prepared from triethanolamine and following acids: isocarproic, caproic, caprylic, capric, lauric, myristic, palmitic, stearic, and oleic.

Antiseptic Value of Improved Calomel Ointment, E. E. Vicher, R. K. Snyder and E. N. Gathercoal. Presence of ionic material in an aqueous suspension of calomel is shown, and concentration of mercurous ions in filtrate of such suspension is found to possess approximately same antiseptic power as 1 to 10,000 solution of mercuric chloride. It is also shown that mercuric ions cannot be present in such suspension except possibly in exceedingly minute quantities (a concentration of about 15 parts per one hundred million).

Average size of particles in samples of U. S. P. Calomel varied from 2 to 50 microns and of certain old calomels up to 110 microns.

A new calomel, consisting of particles 0.5 microns or less in size, was prepared.

Official calomel ointments were found to possess an inhibitory action which gave clear zones in F. D. A. Agar Plate Test varying from 0.5 to 2.0 mm. whereas ointments prepared from new calomel displayed zones of from 7 to 12 mm.

Few ointments produce a broader zone in the F. D. A. Agar Plate Test than the new calomel ointment. Of official ointments only Citrine (Ointment of Mercurous Nitrate) developed a broader zone.

Official calomel ointment corresponds in antiseptic value to 1:10,000 mercuric chloride ointment, but new calomel ointment is almost equivalent to 1:100 mercuric chloride ointment.

Practically no difference was found in antiseptic powers of aqueous suspensions of official and new calomels.

It was found that only slight differences in toxicity of official and new calomel ointments existed, although rate of absorption of new calomel appears to be more rapid than that of official product.

An ointment containing new calomel was found to be stable; that is, no decrease in antiseptic power of ointment is noted after three months aging.

Penetration of Drugs Through Normal and Pathological Skin and Mucous Membranes, David I. Macht. Many drugs and poisons, of non-corrosive or non-destructive nature, pass readily through mucous membranes of various organs and produce systemic effects in animals and men. When drugs are employed for their purely local effect, the possibility of such systemic sequelae must be considered. Mucosa of urinary bladder, however, are impervious to nearly all drugs. Previous application of other pharmacological agents to mucous membranes may also markedly influence absorption of chemicals subsequently applied. Series of fixed fats and oils, used as vehicles for conveying powerful drugs through intengument, were found to but poorly penetrate superficial layers of skin. Nearly all of a series of volatile or essential oils, on the contrary, easily penetrated the intact skin of various animals. The author has employed some of these oils as vehicles for carrying a number of respective purely pharmacological agents into the deeper tissues. Many pure chemical constituents of various essential oils were also examined individually and found to be readily absorbed through the intact skin. Some of these were also employed as vehicles for introducing active therapeutic agents into the system. The author has demonstrated that the alkaloid nicotine, employed as a special pharmacological agent, varies markedly in penetrability after application to normal and pathological skin and mucosa, respectively. Normal tissues are generally more pervious to the alkaloid than pathological skin and mucosa unless the poison comes in contact with open or bleeding points on the surface of the latter.

Phenolic Derivatives of P-Amino Benzoic Acid, Abraham Taub. Although alkyl and alkylamino derivatives of p-aminobenzoic acid have been extensively treated in the literature, practically no reference is made to phenolic derivatives of this acid. In search for possible surface anesthetics of interest in dentistry, the phenols selected were those well known for their obtundent properties. This paper is limited to the method of preparation and physical properties of the p-aminobenzoic acid esters of phenol, o-cresol, carvacrol, thymol, eugenol, guaiacol, o-xenol, and p-tertiary amyl phenol.

Chemistry of Cascara Sagrada, Melvin W. Green, C. G. King, and George D. Beal. Petroleum ether extract of Cascara Sagrada bark was subjected to analysis by Varrentrapp method giving an approximation of volatile, saturated and unsaturated fatty acids. Rhamnosterol was identified in this fraction as its acetyl derivative and isoemodin (3, 5, 8-trihydroxy-2methyl-anthraquinone) was obtained in hydrolysate of aqueous extract. Hydrocotoin (the methyl ether of benzoyl phloroglucinol) was obtained by steam distilling one of

resinous products. Both glucose and rhamnose were present, presumably as glycosides, in approximately a 1:1 ratio. The diffusible material from an aqueous extract of the bark was found to be more active than official fluidextract or non-diffusible portion, on basis of total solids.

Toxicity of Propylene Glycol, J. E. Weatherby and H. B. Haag. The acute toxicity of propylene glycol for white rats was ascertained by oral, subcutaneous, intramuscular, and intravenous administration; and for rabbits by intravenous administration. Average fatal doses (50% mortality) for white rats were found to be: oral, 33.5 grams per Kg.; subcutaneous, 22.5 grams; intramuscular, 14 grams; intravenous, 6.5 to 7 grams. Average intravenous fatal dose (50% mortality) for rabbits was found to be 6.5 to 7 grams per Kg. These figures are in agreement with those reported by other authors, with exception of intravenous fatal dose for rats, which was found to be somewhat less than half that reported by Seidenfeld and Hanzlik and Braun and Cartland.

Chronic toxicity of propylene glycol was studied by administering this material to growing rats by way of their drinking water. Concentrations of 3.0% or less caused no appreciable change in rate of growth. A concentration of 10% caused a temporary slowing in rate of growth which lasted for about ten days. Rate of growth after this initial period of slowing became essentially normal. Microscopic examination of internal organs of these animals sacrificed at the end of experimental period of 100 days showed no significant abnormalities.

Stability of Citrate of Magnesia, George E. Crossen and Charles H. Rogers. The influence of syrup; of carbon dioxide; of potassium citrate; of varying magnesium concentration; of a lesser concentration of citric acid; and of combinations of two or more of these factors upon stability of solutions of citrates of magnesium was studied. Results of this study, when applied to the official Solution of Magnesium Citrate, led to the following conclusions:

1. Precipitation of tribasic magnesium citrate in official solution is caused by a high MgO equivalent of magnesium carbonate used in preparing solution.

2. Precipitate does not form immediately upon cooling because of tendency of tribasic magnesium citrate to form supersaturated solutions.

3. Precipitation is stimulated by presence of sucrose and of carbon dioxide, but is not affected by the alkali citrate present.

4. Stable samples of Solution of Magnesium Citrate can be prepared according to official formula if magnesium carbonate used is equivalent of from 39.2% to 40.0% of magnesium oxide. Since it is impractical, if not impossible, to obtain magnesium carbonate having an MgO equivalent within this range, use of calculated quantities of magnesium carbonates having other equivalents is suggested and a table is given by means of which necessary quantities of these carbonates can be ascertained.

U. S. P. XI Standard for Tincture Digitalis, L. W. Rowe and H. W. Pfeifle. A series of direct and indirect experimental comparisons between U. S. P. X and U. S. P. XI standards for Tr. Digitalis showed latter to be about 50% stronger than former. U. S. P. XI standard digitalis powder *corrected* was tested many times by two frog methods in comparison with International and Canadian standard digitalis powders and its activity found consistently to be definitely greater than these though it should theoretically just be equal to them.

A Rapid and Accurate Method for the Assay of Silver Proteinates, Margaret C. Swisher. Proposed method requires from one-tenth to one-third time necessary with the previously reported methods. Analysis is completed in one flask. Per cent of silver runs same or higher than that by the U. S. P. assay.

Para-Aminobenzenesulfonamide—Colorimetric Assay, Asa N. Stevens and Edward J. Hughes. Certain obstacles have been encountered in determining parabenzenesulfonamide, colorimetrically, in specimens of urine. Difficulties are discussed and modified procedure described. This modification has been found to yield more satisfactory results.

Tannin Bearing Galenicals, S. W. Arnett and C. O. Lee. Recent revisions of U. S. P. and N. F. have specified numerous changes in menstrua used in preparation of astringent galenicals. These changes have brought up questions concerning effects upon astringency, total extractive, and permanency of these galenicals.

The astringent property of these preparations has been studied by making about two hundred tannin assays. Effect of precipitation upon astringency has been considered. Attempts have been also made to prevent or reduce formation of precipitates in these products. This has been accomplished in some cases by treating drug to autoclave temperatures before percolating it. This treatment caused no marked loss of astringency.

Lecithin Soaps, Saul Caspe and L. G. Hadjopoulos. Sufficient evidence has been accumulated to consider soaps as bactericidal and detoxifying agents. In our experiments, we have come to conclusion that of all soaps tested, lecithin soap was found to be most efficient in combating acute and chronic conditions arising from intestinal infection and intoxication. Furthermore, lecithin soaps retard oxidative and sunlight destruction of vitamin "A" in water emulsion and oil solution.

Influence of pH in Aconite Bioassay, Frank A. Bellman and Marvin R. Thompson. The pH of injected solutions of aconitine and aconite is shown to have a pronounced effect upon toxicity to guinea pigs, following U. S. P. XI method of assay. This necessitates numerous accurate pH determinations in applica-

tion of the official method, thereby increasing cost to a point difficult to justify.

Official method involves subcutaneous injection. This permits injected solution to come in contact with little in way of buffer materials before absorption. It is to be expected, therefore, that pH would exert a profound influence upon absorption rate and hence upon toxicity. By resorting to intraperitoneal route, studies show influence of pH to be much less critical, thereby decreasing effort and cost to substantial extent, while at same time sacrificing nothing in accuracy or dependability of method.

Standardization of Ergot, Asa N. Stevens. Presenting brief summary of development of colorimetric assay of ergot. Comparative data obtained by modified Smith Colorimetric, Cock's Comb and Broom and Clark assay methods.

Cystine

(Continued from page 356)

the only amino acid that absorbs ultra violet light to any degree and suggested that cystine was in this way of physiologic importance in protecting the body against prolonged exposure to the sun. This also may explain why certain races, particularly the Arabs, wear loose fitting woolen garments. Wool is rich in cystine.

From time to time, investigators have stated that an excess of cystine may be the causative agent in certain types of kidney nephrosis. Bell[21] exploded this view by placing rats on diets containing as much as 2.0% cystine. Even such a high acid content failed to produce "cystine nephrosis."

Cystine is however responsible for certain pathologic conditions. Cystinuria, which appears to be a hereditary disease, occurring oftener in males than in females, is characterized by the presence of excess cystine in the urine. It is probably due to the inability of the diseased individuals to metabolize cystine when combined in proteins. Even in a protein diet free of cystine, these persons excrete cystine, probably from body sources. Yet if they are fed the pure crystals, they can utilize this form of the acid, without any higher urinary output of the substance.

This condition is dangerous because the excess cystine, due to its insolubility, may form calculi or accumulations in the internal organs, particularly the kidneys, liver and spleen. These "stones" form obstructions to the normal functioning of the organs and result in many pathologic conditions, and often in death. X-ray photographs of such cystine calculi show that they consist of three layers. The center being composed of phosphate crystals, the second layer of semi-amorphus phosphates and the outer layer consisting of cystine. When formed, these calculi often require surgical removal.

That certain types of "fatty liver" may be due to a lack of cystine was shown by the work of Beeston and Channon[22]. Injections of cystine and its compounds may have some retarding effect on tumorous growths. Injections of cystine disalfoxide into mich with tumors caused the development of a different type of tumor which was slower growing and smaller in size[23].

The research data on cystine is constantly increasing. It remains for the commercial chemists to make practical application of this knowledge. There is much that is of value awaiting exploitation through further study. Cystine is only one of the amino acids that might prove worthy of more thorough investigation. The information is there—it merely awaits utilization.

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Norwich's New Tablet Plant

(Continued from page 353)

production of special tablets, which because of their chemical nature, cannot be produced on equipment used for regular production.

Tablets, which are to be coated, pass from the compressing room in the opposite direction into the coating department. In this department the coating is applied under rigidly standardized conditions. This department also is air conditioned and dehumidified and each pan is connected with a dust exhaust system. The coating of tablets is usually the dustiest operation connected with the manufacturer of tablets, but here, as in other divisions of the department, dust is conspicuous by its absence.

The coated tablets flow straight through into a polishing department where separate pans for the various colors are provided. The polished tablets are again inspected and held for release by the control laboratory before being transferred in sealed drums to the packaging department in an adjacent building.

The cleanliness and efficiency of the new tablet plant of the Norwich Pharmacal Company must be seen to be appreciated. It is not possible in this brief resume to describe all the equipment much of which was specially designed. It is enough to say that the new department is equipped, not only to make all kinds of tablets but to make them by several different methods.

Knowledge of Vitamins

(*Continued from page 341*)

cases of *beriberi* annually in Hong Kong out of a population of about 350,000. In 1929 the death rate in Japan, due to beriberi, was 9.9 per 1,000 deaths. It is the eleventh most common cause of death of infants in Japan, and 82,000 out of 208,000 cases of sickness in the Japanese Army in 1923 were cases of nutritional disease, mostly beriberi. In 1918 beriberi was the third most common cause of death among infants in the Philippines. In the human subject the triad of symptoms which characterize beriberi are neuritis, cardiac weakness and edema. The specific treatment of beriberi is the use of vitamin B_1. In severe and acute cases the pure vitamin or potent concentrates, which may be given parenterally, are preferred; for less severe cases dietary supplements or a properly balanced diet may be used to advantage.

Loss of appetite, following inadequate vitamin B_1 intake, was one of the first effects which attracted attention. Loss of appetite results in loss of weight, but there are other causes of loss of appetite than vitamin B_1 deficiency. It has been observed that certain types of *constipation* are benefited by an increase in vitamin B_1 content. Bran itself is a source of vitamin B_1, and clinical evidence has been presented that the addition of bran to diets low in vitamin B_1 will cause laxation from the combined effect of fiber and vitamin B_1.

Much controversial research has been reported on the relation of vitamin B_1 to *carbohydrate metabolism*, but it may be stated that abnormality of carbohydrate metabolism in vitamin B_1 deficiency is apparently due to changes in tissue cells. It is probable that in vitamin B_1 we have a cell constituent definitely aligned with the other essentials of the oxidation system. However, there is increasing evidence that other vitamins are probably concerned in cell respiration, especially in the cells of the skin. The actual mode of action and the laboratory means for demonstration are being developed and applied in a number of research laboratories at this writing.

Nervous degeneration, gastro-intestinal lesions, heart lesions, degenerative lesions of some of the *voluntary muscles*, hypertrophy of the *Islands of Langerhans* and of the *adrenals*, and the lesions of the pituitary, thyroid, thymus and spleen are the major characteristics of the morbid anatomy of vitamin B_1 deficiency in laboratory animals. The early suppression of follicular function in the ovaries of females and the loss of libido in male animals have been observed.

Experimental studies have shown that there is an increased requirement of vitamin B_1 during *lactation* in rats. The content of human milk depends primarily on the quantity of this vitamin ingested by the mother. The League of Nations Committee on Nutrition has recommended a daily intake of from 154 to 254 International Units of B_1 for pregnant and nursing women. True deficiency in adults may arise in gastro-intestinal disturbances, and such cases may require parenteral administration. There is no evidence of a specific ability of vitamin B_1 to combat infection.

Functional disturbances usually precede any definite anatomical changes, which result only after prolonged deprivation of vitamin B_1. Anatomical studies have thrown very little light on the mode of action of this vitamin, and explanation of the causes of the functional disturbances will probably emanate from investigations of the behavior of tissues under vitamin B_1 deprivation rather than from observations at autopsy. It is interesting and important to note that ill health can occur on a vitamin B_1 deficient diet without beriberi.

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Perfume Parade

(*Continued from page 345*)

stopper as well as in the distinctive square bottle with the square cut black onyx cap.

Molinard's "Bacchantes" comes in a delicately sculptured bottle. It is a warm, glowing, lingering odor, fittingly described by the name itself, "Bacchantes"—dance of vertige in devotion to the god of wine Bacchus. Bacchantes is available only in one size and only in the Lalique bottle.

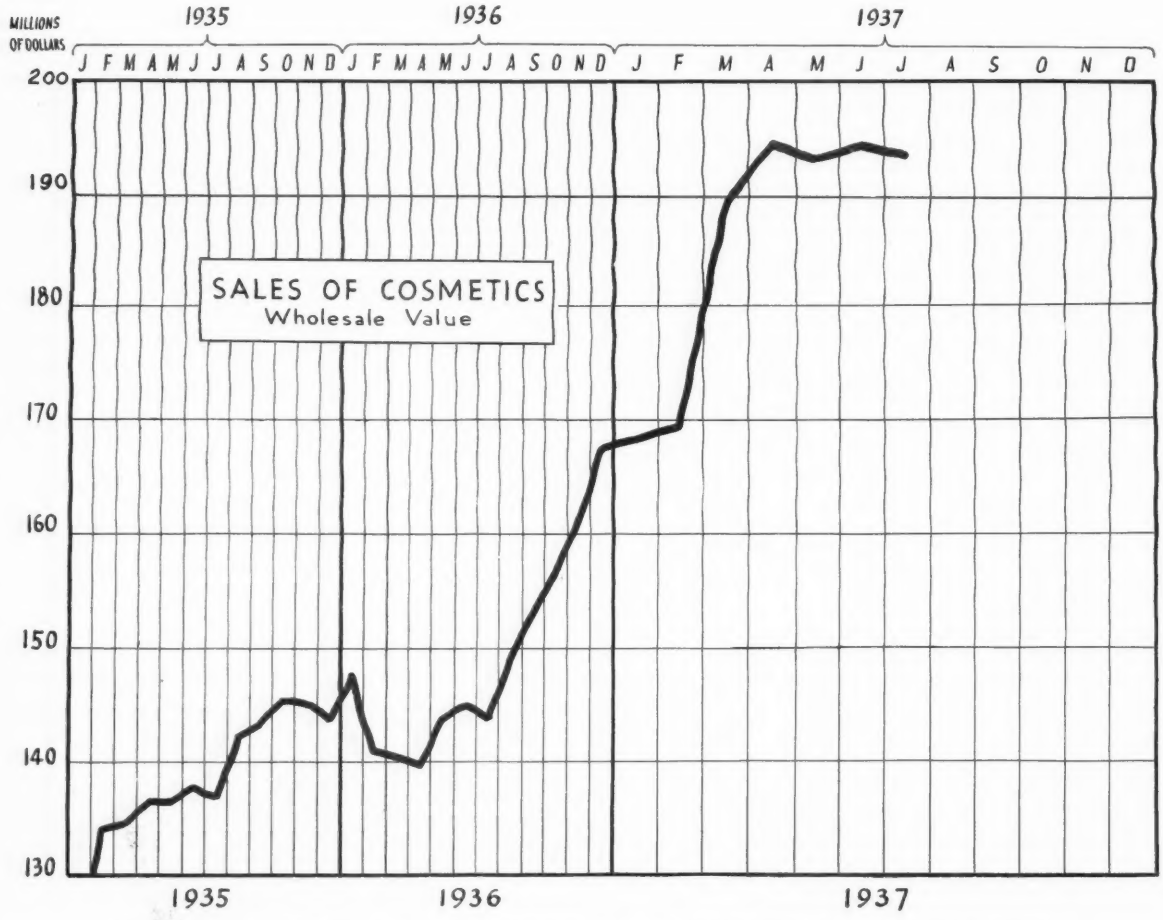
"Far East," is an illusive fragrance offered by Carlyle, in a lead glass bottle of Oriental design. The satin cushion on which it rests is part of the lining of an unusual container of white leather that rests on rockers fashioned of Oriental Mahogany. The dragon and brocade of the East, reproduced in gold leaf, and the name in jade green, completes an ensemble that creates an illusion of mystery that is pleasing and effective.

There are many other new numbers being offered and in preparation, but those described convey an excellent idea of the perfume trend for the Fall and holiday season.

APPROVED BY THE A. M. A.

MERCHANDISING NEWS

"SV" (SKIN VITAMIN): Pond's has finally joined the parade to vitamins in cosmetics by including Vitamin A, "the skin vitamin" in every jar and tube. This is believed to be the first time that Vitamin A is being used in cosmetics—most of the former vitamin preparations having used D or F. It must be admitted, too, that Vitamin A has come off best at the hands of those, including the Board of Standards of the Toilet



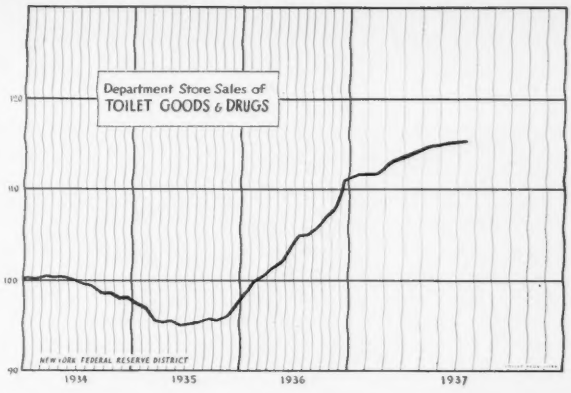
The wholesale value of toilet preparations sold in the year ended July 1937 was equal to $193,806,000, a decrease of one-half per cent from the $194,722,000 in the twelve month period ended June 1937, but an increase of 34.6 per cent over the $143,968,000 sold in the twelve months ended July 1936.

Goods Association, who have attacked vitamins in cosmetics. Vitamin A has been proved to be helpful in the healing of wounds and the chief obstacle to its use in cosmetics has been the supposed instability of Vitamin A *particularly when incorporated into creams.* Pond's chemists have apparently solved this problem. It came first in a list of five research projects which Pond's is reported to have undertaken. These were:

1. Working out a special method of adding "skin-vitamin" to Pond's Creams.
2. Animal tests on changes in the skin brought about by lack of Vitamin A in the diet.
3. *Animal tests to find how the application of* Pond's "skin-vitamin" creams might correct these symptoms.
4. Animal tests to establish the loss of Vitamin A in skin due to "weathering" and washing.
5. *Animal tests to find how* Pond's "skin-vitamin" creams might restore the lost Vitamin A to the skin.

The first advertising on the new "SV" creams, breaking in October issues shows before and after experiments on rats and emphasizes that women, too, have tested the new creams and that "in four weeks, they say, lines are disappearing, pores look finer and *skin smoother, livelier.*"

THE TREND IN COSMETICS: Buyers predict an active fall and winter season on toilet and drug counters with the promotional dates somewhat advanced against last year. Christmas gift selections show that the market has confidence in the consumer. Fairly large orders have been placed already and the tendency favors the more costly items. This does not refer only to department and specialty stores but also to the lower price chains where the new price policy permits a wider choice of merchandise than in the past.



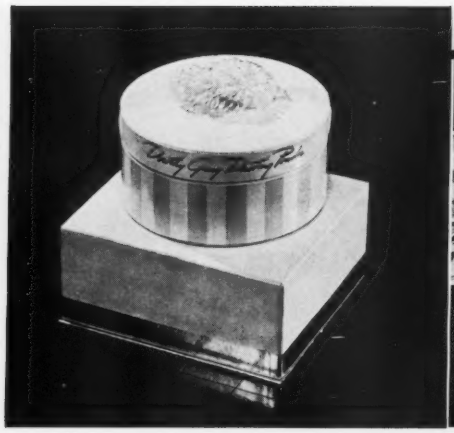
Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District were 3.7 per cent. greater in July 1937 than in the same month of the preceding year. This corresponds to an index number of 115.3 for July 1937 compared with 115.0 in the previous month and 104.9 in July 1936.

Dress openings in Paris indicate a trend to the blues and reds in winter dress fashions. A steely shade of blue, florentine red, slate blue, a soft wine red and a dullish dark brown are mentioned in the reports. There is a green called weathered bronze. These colors appear also in toilet accessories, vanities, the compact casings, etc. Practically all these colors match the conventional make-up shades of today but the possibility of the appearance of rather startling color effects is not entirely excluded by make-up experts. If it should materialize, the greenish tints seem to have the best chance for eye shadows, powders etc. and must be regarded as an eventuality. Blue and green have been seen upon the counters for nail polish but are not expected to find much following.

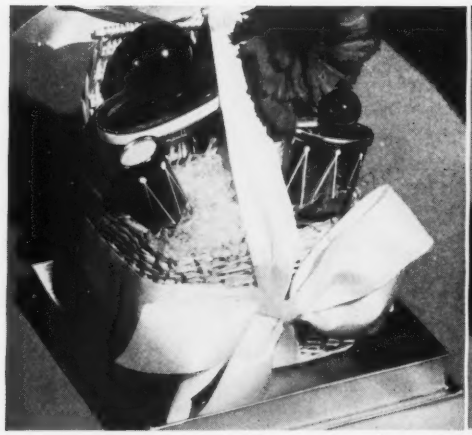
(*Continued on page 368*)

Sales of toilet articles and drug sundries by department stores in Los Angeles increased 5 per cent. in July 1937 over the same month of 1936, decreased by one per cent. in San Francisco, were 12 per cent. greater in the reporting stores of the Pacific Northwest, and averaged 4 per cent. greater for the district as a whole. The corresponding adjusted index numbers for the total district were 116.6 for July 1937, 116.3 for June 1937, and 108.2 for July 1936.

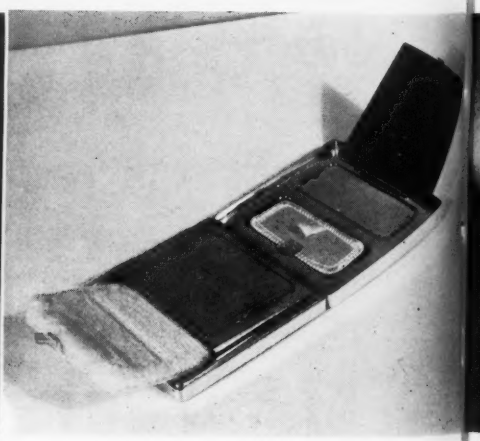
Sales of toilet articles and preparations by department stores in Baltimore in July 1937 were 7.6 per cent. greater than in the same month of the previous year, sales in Washington were 6.0 per cent. less, while the average for the Richmond Federal Reserve district registered a slight increase of 0.4 per cent. The corresponding adjusted index numbers for the district as a whole were 131.7 for July 1937, the same for June 1937, and 122.7 for July 1936.



CASTANETES



La Croix
HAND CREAM



DOROTHY GRAY

Dorothy Gray bath preparations have all been completely restyled and new ones added to the line. The new series consists of creamy soaps, luxurious bath essences and bath salts, dusting powders—all in new fragrances and packaged in a new decor, each fragrance identified by a characteristic pastel color.

STUART PRODUCTS CO.

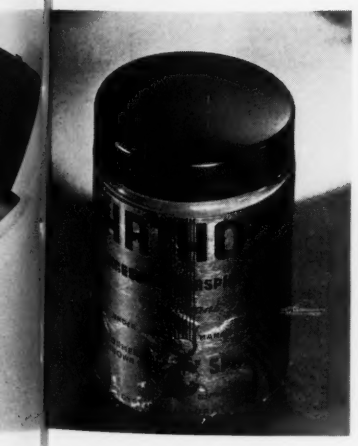
In addition to the Floral Quintuplets of perfume which the Stuart Products Co. has been featuring, "Castanettes" are now being introduced. The three flaconettes of perfume represent three Hexican senoritas colorfully costumed with sombreros and zarapes. They are packaged in an attractive box gay with Mexican figures.

KATHLEEN MARY QUINLAN

Kathleen Mary Quinlan offers a compact handy case of soft brown alligator style fabrikoid and matching silk moire lining, equipped with five Quinlan preparations. A drop-side and throw-back cover facilitates the quick identification and handling of the contents.

LUCIEN LELONG

Lucien Lelong is presenting a new bath oil, De Monaco, which is a lovely grace-note to the bath, soothing and refreshing. It is offered in three sizes, beautifully packaged in white and gold.



MENNEN

Mennen announces two new baby gift boxes. The dominant note in the design of each box is a large photograph of one of the Mennen babies, in sepia, and the rest of the box is blue with white ornamentation.

PARFUMS CHARBERT

Parfums Charbert's panier is an unusually clever gift presentation. The little basket contains perfume and eau de Cologne which may be had in a choice of Gardenia, Of Thee I Sing, Drumbeat or Carnation odors, and a Charbert lipstick.

SCHNEFEL BROS.

Schnefel Bros. La Cross hand cream is a greaseless, quick-drying, fluffy texture cream, designed to supplement the natural softening oils of the skin, and help overcome roughness, dryness and chapping. The white jar with a bright red cap and label makes an appealing package.

CORDAY

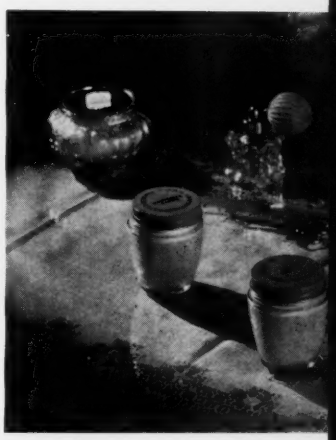
Corday's Orchidee Bleue compact is a beautifully finished gold case with a contrasting center panel of dull finished gold. The compact nestles in a background of Orchidee Bleue velvet, packaged in a gold colored gift box.

CLARK-MILLNER CO.

Clark-Millner's "Three Sisters" cleansing pads are handy little pads of cloth saturated with an effective cleansing lotion. A dozen of them keeps moist in a slim compact which can be carried about in the pocket or purse ready for an instant facial after shopping, sports, motoring, etc. Boudoir jar, purse compact and 120 moistened pads sell for $1 complete.

YORK PHARMACAL CO.

York Pharmacal Co.'s new cold and vanishing cream package for the ten cent market was designed by the Owens-Illinois Glass Co., using a decorative glass jar of pleasing practical design, and employing a lithographed single-shell cap both as closure and label.



CONSTANCE BENNETT, INC.

Constance Bennett, motion picture star, has entered the cosmetic manufacturing field with a complete treatment line consisting of creams, lotions, astringents, masks and make-up items. The entire line is attractively packaged in coral and mulberry containers, featuring a regal leitmotif, with an emblazoned coronet, and a reproduction of the Constance Bennett signature.

VANSTYLE SPECIALTIES CORP.

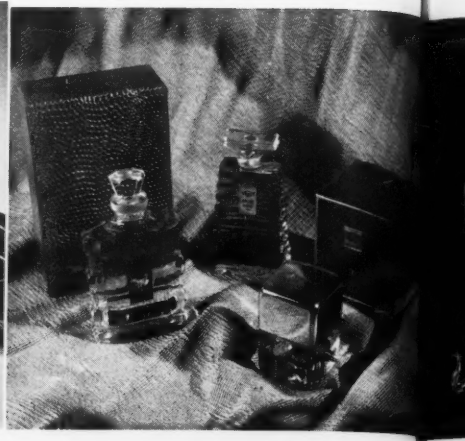
The Vanstyle Specialties Corp. newest compact offering has been named "Pul-puf." It is a beautiful compact with a full velour, double-sized puff. By a simple device hidden in the powder box, just enough powder is distributed on the puff for use.

EGYPTIAN LABS.

"Hathor," a deodorant prepared by the Egyptian Laboratories, is attractively packaged. The modern glass container carries a gold metallic label and is sealed with an Armstrong double-shell metal cap. The product was formerly known as "Sphinx."

GLAZO

Glazo's "Airliner" manicure set comes in a case of printed fabric in black, light gray, or brown. It includes cuticle pusher, scissors, nail file.



Mifflin
MILK OF MAGNESIA
Mifflin
RUSSIAN MINERAL OIL
COD LIVER OIL

Violet
The Flowers that Bloom in the Spring

HOUBIGANT

Simplification is achieved and greater value offered by Houbigant in the new toilet water series in Quelques Fleurs, Le Parfum Ideal, and eight other odors. The "hand processed" powder and rouge ensemble also illustrated, will appeal to the woman who wants something wholly different. Jade and tortoise shell containers hold three standard shade combinations.

BARBARA BATES

Barbara Bates "Palm Beach" manicure set is a combination of utility and glamour. A dressing table bar lifts out completely from its leather case. It comes in deep brown leather, lined in dark brown silk, and rich blue alligator grain with blue silk lining. Pearl knobs of buffers also match in color.

HOUSE OF 4711

The House of 4711 has three delightful perfume odors, Tosca, Troika and Rhinegold, which have been newly packaged for the holiday season. Tosca is a romantic perfume, while Troika is appropriate for sports. Rhinegold is grand for the formal occasion.

COUNTESS D'ARIAN

Rich colors creates luxurious design effect for the "Coronation Sceptre" containers of Countess D'Arian Cosmetic Co. The bottles are transparent with gold metallic neck labels printed in black. The containers are closed with snow-white Artmold caps.

KIMBLE GLASS CO.

Candy Crafters, Inc. has created "Q-T's–Instant Breath Sweeteners," and Kimble Glass vials with Re-Seal-It caps were chosen for the packaging of this item.

MARY DUNHILL

Mary Dunhill's attractive three piece gift set contains a compact, lipstick and comb. All three carry a new and attractive little decoration of tiny flowers covered by glass which seems to magnify the flowers slightly.

MIFFLIN CHEMICAL CORP.

The Mifflin Chemical Corp. gains additional decoration for its modern glass containers through the use of Armstrong's metal caps.

GROVILLE SALES CORP.

Among the many Potter & Moore holiday sets offered by the Groville Sales Corporations, is the de luxe set, a coffret containing Mitcham Lavender in wicker, liquid bath oil, dusting powder and three complexion soap tablets.

EYE-GENE CO.

Trim little containers of blue glass, white labels printed in a harmonizing shade of blue, and Armstrong's Artmold caps molded in a lustrous white plastic comprise the packages of the Eye-Gene Co. The product is for use in freshing eyes.

OGILVIE SISTERS

Ogilvie Sisters offer "Swing Hair Fragrance," a delicate bouquet for scenting the hair. It comes with or without an atomizer.

YARDLEY

Yardley's beautiful scarlet velvet-lined box contains the new Yardley double compact, with the attractive raised plume design which is also carried out in the lipstick case. English complexion powder in the Bond Street odor and a bottle of Bond Street perfume complete the set.

DREXEL & CO.

"Fashionel Fifth Avenue," is a group of perfumes prepared by Drexel & Co., Packaged in attractive containers sealed with white Artmold caps, each bottle contains a flower representative of the odor of the perfume it contains.

HOUBIGANT

Houbigant has added the fragrance Magnolia to its other Eaux Florales—Verbena, Sweet Pea, Honeysuckle and Gardenia. Also new is the special atomizer for all fragrances with an unbreakable "silk tube" stem.

DORIAN OF LONDON

Dorian of London presents English Heather lotion for men. It has a delicate fresh odor, created to appeal to men who might dislike heavy or feminine scents.

Merchandising News

(*Continued from page 363*)

The general broadening of the consumers' interest in the correct use of cosmetics is bringing to the forefront many cosmetics items in which the sale have been confined in the past to a comparatively small number of customers. This, in the opinion of some buyers, may ultimately lead to the redepartmentalization of store arrangements to fit them better to the needs of the market. The appearance of the sign "Hand Make-Up" in connection with manicuring is an indication of this trend. A suggestion is that manufacturers can aid this development by placing more attention upon their supplementary label claims as in the case of a Skin Lotions, for instance, "for the face, shoulders and hands." Stores are inclined to push the use feature of these articles in their counter cards. Exceptions, of course, are heavily advertised items when the manufacturer has done his own educational work.

BATH SHELF: The Seventeen Bath Shelf—a small, portable shelf of grooming accessories, all ready to hang in the bathroom, simplifies the problem of the cluttered up bathroom cabinet by getting these aids to personal daintiness up and out of the way. It is decorative besides being practical and should make a charming gift for the Christmas season. The shelf contains three preparations—bath salts, dusting powder and toilet water. The shelf itself is covered with a glossy, white paper in a smart tile pattern, and is strung with pink cord for hanging. A hook is also supplied with each package.

PROTECTING BROMO QUININE: Grove Laboratories has adopted a new cellophane wrap which has the L.B.Q. trade-mark water-marked directly into the cellophane. This is said to be the first appearance of water-marked cellophane manufactured exclusively for an individual user.

BEAUTY SURVEY: According to Modern Magazines 7th Survey of Beauty, based on the replies to a questionnaire sent to readers the most universally used beauty product is face powder, used by 92% of those replying; lipsticks are used by 88%; all-purpose, cleansing and cold creams by 87% and soap for the face by 89%.

Department stores account for 86% of the sales of vanishing creams; 79% of cleansing, all-purpose and cold cream; 76% of hair tonic; 75% of face powder and 74% of powder base sales.

Pond's was shown to be the most frequently bought brand of cream, followed by Lady Esther and Woodbury's. Cutex led in all the nail and cuticle preparations. Mum was the most popular deodorant, with Odorono second; Zip led all other depilatories and Lady Esther was the most frequently chosen face powder, with Woodbury second and Max Factor third. Pacquin's was the most popular hand cream while Jergens was the most popular hand lotion. Woodbury's was first choice among nourishing creams with Max Factor second and Pond's third.

Modern Magazines believes that the readers questioned form a representative cross section of all cosmetic buyers, the majority of whom they found to be between the ages of fifteen and forty with those between twenty and thirty the greatest buyers.

Raw Materials of the Far East

(*Continued from page 352*)

adverse trade balance of that country. Why then should Japanese raw materials be advancing? The truth of the matter is that Japanese manufactured goods which compete in the world markets will undoubtedly decline in price. Raw materials, however, such as menthol, camphor, camphor oils, agar and Japan wax are practically monopolies. As they have little or no competition the attitude of the Japanese producers is to obtain just as high a market as possible.

Although the menthol market is statistically strong, at this writing a new crop is being collected. There is every reason to believe that production will be good as growing conditions this summer were quite satisfactory. Shipments of menthol from January to May inclusive, were heavy but little buying was noted during the past three months. The fact remains, however, that Japan is not a willing seller and that the spot market had to be advanced 5c per pound to the basis of $3.25 in case lots to bring it more in line with the prices in the primary market.

This same situation is true of camphor and the camphor oils. A very firm market prevails with every indication that advances would be forthcoming in the not far distant future.

Agar agar exports from Japan during 1936 totaled 2,948,600 kin being the largest since 1918, when 2,639,400 kin were exported.

Continental Can Company

SMOOTH Sailing

A good boat and a friendly breeze! That's a combination hard to beat for easy going and peace of mind.

You can have smooth sailing in your business, too, by sealing your containers with CCS Screw Caps. It's the way to avoid sealing troubles. With CCS Caps you get:

FASTER PRODUCTION—CCS Caps spin on the glass thread faster because of their patented thread construction.

ASSURED PROTECTION—The Deep Hook Thread assures positive sealing. Caps seal tighter with less application force.

CONSUMER SATISFACTION—CCS Caps are easier to remove. This pleasing convenience gives housewives an added reason for buying your brand.

Only CCS Screw Caps give you all these advantages. Samples for testing are yours for the asking.

CCS *Screw Caps*

BETTER SEALING FOR YOUR PRODUCT

CROWN CORK & SEAL CO. • BALTIMORE, MD.

WORLD'S LARGEST MAKERS OF CLOSURES FOR GLASS CONTAINERS

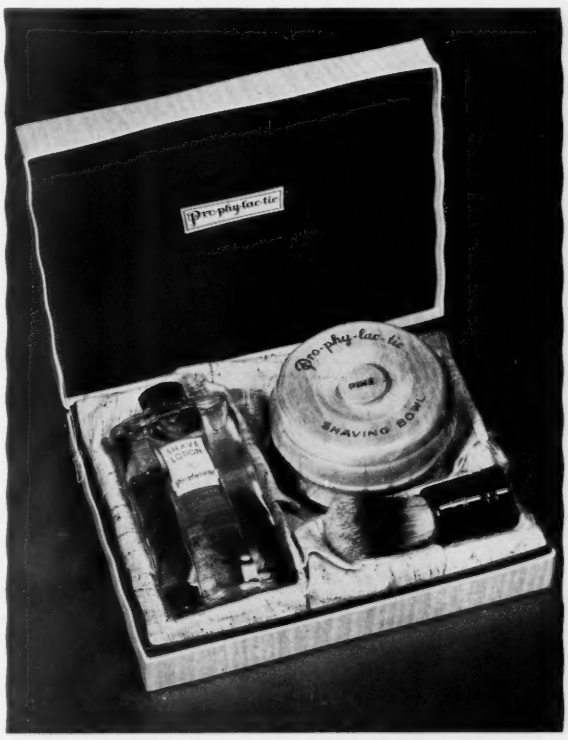
PACKAGING NOTES

ATOMIZER STEM: If you haven't seen it yet, rush right out and buy a bottle of Houbigant's toilet water so that you may examine the unbreakable silk tube stem on the atomizer which comes with the package. This is one of the nicest little refinements we have seen for some time and, as is the case with all such beautifully simple things, you wonder how it is that someone hadn't thought of it before. The atomizer head is the same as most, but in place of the conventional glass tube which goes down into the liquid and through which it is sucked, the stem in the Houbigant atomizer is made of silk. It appears to be highly efficient and, unless something unforeseen develops, it should replace all of the conventional stems in no time.

SUCCESSFUL PACKAGES: For the third successive year the Continental Can Company is offering to the trade a handsome presentation of its direct color advertising called "Successful Packages," Volume 3. A high percentage of the packages shown are from this industry although the foreword states that "each year the task of selecting the few of the many successful containers by Continental which can be featured in these pages grows more difficult." Copies of this beautifully illustrated presentation are available upon request.

NEW MEN'S LINES: Just a few months back, Prophylactic, well and widely known for its brush business, decided to enter the cosmetic business with a tooth powder. Now that company announces a men's set for the Fall and Christmas trade consisting of shaving bowl and shaving lotion, in addition to a shaving brush, thus emphasizing its entry into the cosmetic field. At the same time, London House, also known well and widely for its Kent Brush line, has also decided to enter the cosmetic field with an all-cosmetic men's set consisting of shaving bowl, shaving lotion, hair lotion and talc. Although in different price fields, (Prophylactic $2.50; London House $6.50) and thus not competition for each other, these two companies bring new, important competition to the established men's lines for both are experienced merchandisers in the toilet goods field.

The London House products are packaged distinctively in ceramic bottles of a rich pigskin hue, in unusual shape, with dull gold-plated coin-like stoppers bearing the London House insignia in bold relief. The line consists of shaving soap in a well-proportioned bowl of waterproof lacquer finish on walnut with metal "London House" medallion imbedded in the cover; after shave lotion, tonic hairdressing, both in ceramic



LOOK Says this PACKAGED Line!

Under the experienced hand of "NATIONAL" artisans, a complete line of toilet items goes out to Sell! . . . . . ● Singly or serially • your products too, can be launched into swift selling currents by "NATIONAL" Container technique.

NATIONAL *can* Capitalize Display!

NATIONAL CAN CORPORATION

SUBSIDIARY OF McKEESPORT TIN PLATE CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK CITY

Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH, N. Y. • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO

pottery bottles, and after shave talc. The products are available individually or in sets put up in handsome buff and maroon packages.

The new Pro-phy-lac-tic Brush Co.'s three piece shaving set consists of a wooden shaving bowl with either pine or lavender shaving soap, a shaving lotion with a fresh, out-of-doors scent, and a shaving brush with composition handle. The attractive simulated wood container is lined with a lightweight tweed fabric and has a brown trim.

Wrisley's "Men's top hat bar" another new offering for men consists of talc, after shave lotion and a shaving bowl, all neatly arranged in a metal "bar" which helps to keep these shaving supplies in order after use each day—something the woman purchaser will appreciate!

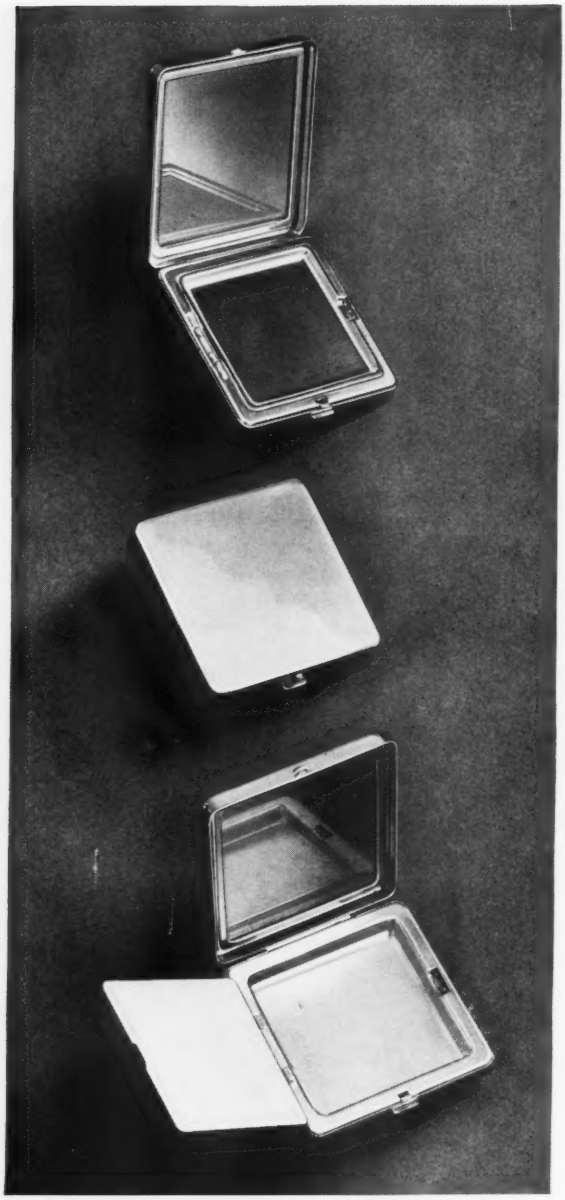
Included in several of the Bourjois Mansfield holiday sets is the new "ShavPak." It is trim and convenient for traveling—neat, compact, and the cover slides under the case when in use. This makes an interesting variation of the conventional shaving bowl.

Manicure items too, are becoming increasingly important for the male market. Several of the manufacturers have realized this and among the Christmas gifts for men will be numbered attractive manicure sets. Barbara Bates offers a handsome one of genuine brown leather lined with heavy brown silk which contains nail clippers, cuticle scissors, a buffer, powder polish stick, nail file, Crystolive stick with brush tip, nailwhite pencil, smoothie, cuticle beauty oil, hand beauty lotion and tweezers. Cutex also presents a good looking smooth saddle bag in tan leather with gilt fastener, the contents of which include everything necessary for the man's manicure.

AYER CAMPUS CARRYALL: This year, Harriet Hubbard Ayer has made a direct tie-up with the college girl and with Back-to-School toilet goods promotions with the development of the Ayer Campus Carryall. In planning this kit, the company held a Conference on College Beauty Requirements which was attended by ten delegates of leading colleges. These girls specified the items to be included in a kit, stated the colors they preferred and agreed that a price of $5 was about what their budgets would afford.

As a result, the Ayer Campus Carryall is tailored of polished alligator fabricoid in black, brown and red. It contains Luxuria cream, hand cream, beautifying face cream, face powder, skin tonic, almond honey, cucumber lotion, eye shadow, rouge, lipstick, comb and mirror. The company is featuring the kit in its current advertising, and counter cards, cooperative advertisements and display posters are available to help retailers make the most of the promotional possibilities of this college tie-up.

A SQUARE SINGLE VANITY



ILLUSTRATED are three views of a standard Scovill square single vanity. The style shown is a loose-powder type but the same container is available for compact powder.

Relatively thin, this square design with rounded corners fits comfortably into the hand and yet displays to good advantage.

Made on standard tools, these cases are available on medium-size orders. With special stamping dies, the cover can be embossed or incised to individualize the box and thus match the other items in your line. Polished brass, satin finish, or plated finishes can be furnished either alone or in combination with enamel finishes or enamel fills.

Mascara boxes, double compacts and double rouge and loose-powder boxes in matching construction are available on the same basis.

If your requirements call for rouge boxes, lipsticks or eyebrow-pencil containers, vanity cases, mascara or eyeshadow boxes in medium or large quantities, Scovill's facilities will be well worth investigating.

A letter to Waterbury or to any Scovill sales office, or in Canada to the Toronto Plant, will bring you complete information.

SCOVILL

SCOVILL MANUFACTURING COMPANY

***DRUG AND COSMETIC CONTAINER DIVISION*—69 MILL STREET, WATERBURY, CONNECTICUT**

Boston • Providence • New York • Philadelphia • Lynchburg, Va. • Syracuse • Pittsburgh • Detroit
Chicago • Cincinnati • San Francisco • Los Angeles • IN CANADA: 334 King Street, East, Toronto, Ontario

Price Maintenance Now Legal

(*Continued from page 335*)

THIS AGREEMENT finally executed and consummated and made in the City and State of New York, on the..... day of ....., 193 , by and between ....., a corporation organized and existing under the laws of the State of ....., hereinafter referred to as "Vendor," and ....., whose business address is....., and hereinafter designated as "Retailer,"

WITNESSETH:—

WHEREAS Retailer is desirous of purchasing from Vendor or from the authorized distributors or wholesaler dealers of Vendor, certain commodities, the labels or containers of which bear the trade-mark or trade-marks, brand or brands, or name of Vendor as the producer or distributor of such commodities in order to identify said commodities to the purchasing public as being the commodities of Vendor, said commodities or any of them which are so identified being designated as "The Commodities," for the purposes of this agreement, and

WHEREAS said commodities are in free and open competition with commodities of the same general class produced or distributed by others, and

WHEREAS it is the intention of the parties that The Commodities so purchased or to be purchased by Retailer from Vendor or its authorized distributors or wholesale dealers shall be sold and delivered by Vendor to Retailer in interstate commerce between the state of .....and the state of ....., or that Retailer shall purchase The Commodities from authorized distributors or wholesale dealers of Vendor either in interstate or intrastate commerce, and that The Commodities shall be sold and distributed by Retailer solely at retail and intrastate commerce in the state of ....., and

WHEREAS said state of ..... has heretofore enacted a law designated as and which is now in full force and effect, and generally referred to as a "Fair Trade Practice Act," or the general law of said state permits the making of this contract independently of any specific statute,

NOW, THEN, in consideration of the premises, and the mutual covenants and obligations herein, which are expressly made dependent on each other, and the benefits contemplated hereby to the respective parties, and also in consideration of the sale and delivery of The Commodities which Vendor may make or cause or permit to be made to Retailer from time to time while this agreement shall be in effect, and for other good and valuable consideration, receipt of which is herewith acknowledged, the parties hereto mutually agree and covenant as follows:—

1. Retailer will not, in said state of ....., directly or indirectly, advertise, offer for sale, or sell to any person, firm or corporation The Commodities, whether purchased directly from Vendor or secured from any other source, at less than the minimum resale retail prices then in effect for The Commodities, as established hereunder by Vendor at the present time or in the future, subject to the exceptions later stated herein. The minimum resale retail prices now in effect and hereby established by Vendor for The Commodities, are set forth in a price schedule, a true copy of which is annexed unto this agreement and made a part thereof.

2. Vendor may at any time, and from time to time, by notice given as hereinafter provided, add to The Commodities specified in this agreement, other commodities sold by Vendor, and identified as above mentioned, and which shall be in free and open competition with commodities of the same general class produced or distributed by others. All commodities so identified and so added, shall be included within the scope of this agreement.

3. Vendor may at any time, and from time to time, in its sole discretion, revise the minimum resale retail prices to be observed by Retailer. Each such revision and addition shall be effective at such time as shall be specified by the Vendor, which shall be at least.....days after Vendor shall have given written notice thereof to Retailer, said notice to be given either by mailing the same in a postage prepaid envelope addressed to Retailer, or by delivering the same to Retailer in person. The giving of any article of value or the making of any concession by Retailer without the consent of Vendor, (whether by the giving of coupons or otherwise) in connection with the sale of The Commodities, shall constitute the sale by Retailer of The Commodities at prices less than the prices at the time in effect under this agreement. The parties further agree that Retailer shall not sell The Commodities in combination with any other commodity, at a combination price covering the combination.

4. Vendor will use its best efforts to fill, or cause or permit to be filled, either by Vendor or an authorized distributor or wholesaler dealer of Vendor, at Vendor's current prices to the retail trade, all orders for The Commodities as placed by Retailer, so long as Retailer fulfills the covenants of this contract, and as long as Retailer maintains a standing satisfactory to Vendor. In the event that Retailer orders The Commodities from a distributor or wholesale dealer of Vendor, Retailer must maintain a standing satisfactory to such distributor or wholesale dealer.

5. The parties hereto recognize and agree that it is impossible to determine the actual damage which will result to Vendor or its distributors or wholesale dealers from sales made by Retailer contrary to the terms of this agreement, and the parties, therefore, agree that Retailer shall pay to Vendor, as liquidated damages, the sum of $.....for each sale made by Retailer in violation of any of the provisions of this agreement, and also a reasonable attorney's fee to be paid by Retailer unto Vendor, if Retailer violates any of the terms of this agreement and Vendor finally prevails in a suit brought by Vendor against Retailer to enforce this agreement or any part thereof. If suit to enforce this agreement is brought against Retailer by a distributor or wholesale dealer of Vendor, and such distributor or wholesaler dealer finally prevails in such suit, such distributor or wholesale dealer shall be entitled to such liquidated damages and attorney's fee, but there shall be only a single recovery in favor of Vendor or a distributor or wholesale dealer thereof, for any single breach of this agreement. It is further agreed that in addition to other legal rights and remedies, Vendor or the distributor or distributors or wholesaler dealer or dealers of Vendor who are injured by Retailer's violation of this agreement, shall be entitled to injunctive relief against any and all actual threatened breaches of this agreement.

6. This contract shall be interpreted and enforced solely in accordance with the laws of the state of ....., and it shall apply only to the sale of The Commodities by Retailer within the state of ....., and as long as the statute or general law above referred to remains i n force and effect.

7. This contract shall remain in full force and effect, subject to the continued existence of said statute or general law, unless previously terminated by either party on ..... days' written notice to the other. Notwithstanding such termination, this contract shall remain in full force and effect with respect to The Commodities then remaining in the possession of Retailer, subject to the exceptions later noted herein.

8. It is the agreement and intention of the parties that if any provision or part of this agreement shall be held invalid or contrary to law, the remainder of this agreement shall be valid and binding upon the parties. No changes in this contract shall be effective, unless in writing and duly executed by the respective parties.

9. Retailer shall have the right to sell The Commodities at prices less than the prices fixed by Vendor, only under the exceptions stated in said statute or forming part of the general law of said state of .....

(*Continued on page 352*)

ARE CORK LINERS REALLY MORE EXPENSIVE

Consider the consumer of your product. When you use a CORK LINER you can depend upon having your product reach the customer in perfect condition. Why? Because a CORK LINER assures a tighter seal—(CORK is alive, and under compression, it constantly pushes both ways to get back to its normal state)—it prevents the cap from backing up or off. It makes for easy removal of the closure—(very important to the consumer)—and it provides a safer reseal. Even with a ruptured facing the CORK LINER will prevent mushiness of the liner and leakage of your product. CORK alone, has these advantages. Compare their total value with the extra fraction of a cent CORK LINERS cost and you'll see that CORK is actually a great deal less expensive.

FREE! A comprehensive booklet, "CORK—THE *LIVE* LINER", is yours for the asking. Send for a copy today.

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CORK
THE LIVE LINER

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UP-TO-DATE DROPPER FITTINGS
PATENTED NON-FRICTIONAL FIT

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Give your product **"LUSTRE"**

a brilliant, rich Stanley Label will help it to "shining success"

See for yourself how much greater eye-appeal Stanley Labels have . . . yet how inexpensive they are. Metal or Foil. Write for interesting samples.

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714 Westminster Bldg.
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St. Louis
1341 Syndicate Trust Bldg.
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Los Angeles, Maxfield Bldg.

STANLEY *Metallic Seals and Labels*

SNOW-WHITE Armstrong's Artmold (molded plastic) Caps are popular with manufacturers of many leading beauty preparations because they are distinctive in appearance. They add the final touch of decoration to modern packages. In addition, Artmold Caps win favor with feminine users because their smooth, velvet-like texture is pleasant to the touch and they are readily removed and replaced when the container is in use.

Armstrong's Artmold Caps are available in a wide selection of colors ranging from bright hues to delicate pastel tints. They may be selected from standard designs—or, they may be molded to meet the requirements of any design.

Give your packages the final touch of distinctive appearance with Artmold Caps. Write today, for samples, prices, and descriptive literature. Armstrong Cork Products Co., Closure Division, 913 Arch Street, Lancaster, Pa.

THERE'S AN ARMSTRONG CLOSURE FOR EVERY SEALING NEED

Armstrong's
ARTMOLD CAPS

CONVENIENCE PLUS

For convenience no other package can equal a well designed Collapsible Tube. Easy to handle and pack, just the proper amount of material can be applied and the tube resealed after use.

Still greater convenience is obtained by using tubes with tips. We recommend these for such products as eye and nasal ointments, nail polishes and lubricants so that the product can be applied at just the proper point.

Standard Tubes are available in sizes and styles to suit every requirement of product and use. Both eye and nasal tip tubes can be furnished with molded caps in a variety of colors, chosen to harmonize with the decoration and add to the appearance of the package. Write for samples.

STANDARD SPECIALTY *and* TUBE CO.

NEW BRIGHTON . . . . . PENNSYLVANIA

DIAFANE

TRANSPARENT
INEXPENSIVE

A Modern Wrap for Drug and Cosmetic Packaging

Diafane is a new transparent wrap, particularly adapted to drug and cosmetic packaging. It is highly moisture-proof, glossy, and is not affected by rapid changes in weather. *Diafane* may be sealed by heat or glue and works rapidly on standard packaging machinery or by hand. It will save you 40% of the cost of moisture-proof transparent cellulose.

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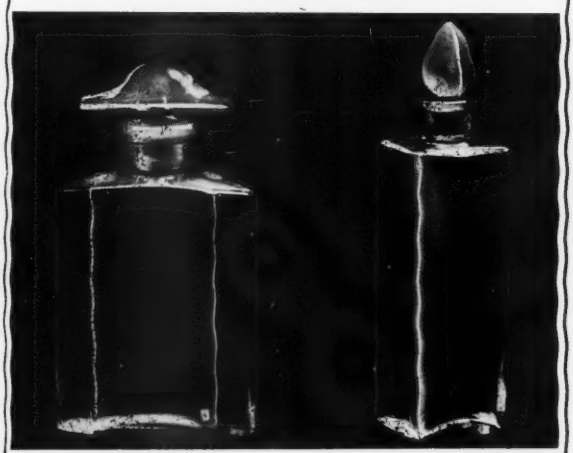
Imported Perfume Bottles

will stimulate and greatly increase the sale of your Perfumes.



Series 400—⅛, ¼, ½, 1, 2oz.
★ FINEST OF CRYSTAL
★ HIGHLY POLISHED

Series 320—½, 1, 2oz.
★ MODERN STYLES
★ FULL-CUT

SPOT STOCKS — IMPORTS — PRIVATE MOLDS
At Prices Surprisingly Low

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Visit our Showrooms and view the Largest Collection in America

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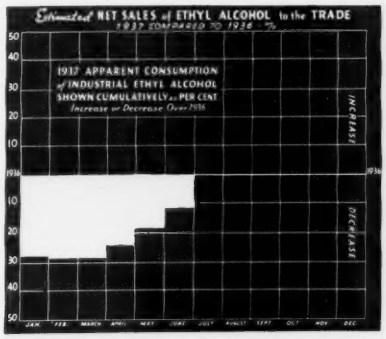
ALCOHOL NEWS

September ★ A Monthly Series of Technical Articles for Chemists and Executives ★ 1937



Apparent consumption of industrial ethyl alcohol from Jan. 1 to June 30, 1937, was 26,751,000 wine gallons. This is 11.5 per cent less than during the same period in 1936 when 29,862,000 wine gallons were consumed.

ABSOLUTE ALCOHOL IN STORAGE ABSORBS NO APPRECIABLE WATER

An old legend dies hard. Only recently several examples of the misconception that anhydrous ethyl alcohol absorbs appreciable amounts of moisture from the air have again come to light.

Possibly the best refutation of this idea is the article which appeared in the April 1936 issue of SOLVENT NEWS. For those readers of ALCOHOL NEWS who are not familiar with this article an abstract is reprinted here:

"Below are given proof readings (deter-

(Continued on next page)

NEW SPECIFICATIONS FOR BUTYL ALCOHOL AS A DENATURANT

The Treasury Department has issued revised specifications for tertiary butyl alcohol authorized as a denaturant for specially denatured alcohol formulae Nos. 39, 39-A, 39-B, and 40 in Treasury Decision 4578, effective October 1, 1935.

Specifications given in A.T. Circular No. 309, July 22, 1937 are as follows.

Tertiary Butyl Alcohol

Specific Gravity 25/25°C.—0.780 to 0.786
Color—Water white
Water—*Miscible without turbidity with 19 volumes of 60° Be. gasoline at 20°C.*
Acidity (Free acid as acetic acid)—Less than .003%
Distillation Range—When 100 c.c. are distil'ed according to the A.S.T.M. method, D268-33, *none should come over below 78°C. and none above 85°C.* More than 95 per cent should distill over between 81°C. and 83°C.
Residual Odor—None
Non-volatile matter—Less than .005%
Freezing point (First needle)—Above 20°C.
Identification Test—*Place 5 drops of a solution containing 1/10 of 1 per cent of tertiary butyl alcohol in ethyl alcohol in a test tube containing 2 c.c. of Denige's reagent. The mixture is then heated just to boiling and then removed from the flame. A yellow precipitate should be produced.*

For protection against sunburn, glycerol or glycol mono-salicylate may be used with mineral oil or with stearic acid, lanolin and beeswax, etc., according to a recent patent.

New C. D. Prices

Effective August 9, prices were announced for Completely Denatured Alcohol for the anti-freeze season of 1937-38, based on carload drums at 35c a gallon F.O.B. production points. Pacific Coast price schedules are 3c a gallon higher.

MOUTHWASH FUTURE LINKED TO MEDICAL AND SALES RESEARCH

Study of Germicides and Antiseptics Not Sufficient—Consumer Demands Must Also Be Satisfied

In New York, in Chicago, in Vienna, in fact almost anywhere, it is safe to say, incessant research is being carried forward in efforts to enlarge the medical profession's knowledge of germicides and antiseptics. Not lagging far behind—if it lags at all—is a study of consumer preferences and buying habits.

Taken together, these two frontal lines of attack have been stimulating a new interest in mouthwashes, proprietary and non-proprietary.

From the medical point of view and according to the stipulations of the Food and Drug Administration, it is said that a mouthwash labeled antiseptic must be exactly that—a product which must be germicidal in a short length of time. A method for determining this action has been outlined in circular 198, U. S. Dep't. of Agriculture. In the medical and pharmaceutical journals additional methods have been published.

In Vivo Versus In Vitro

One recurring question regarding tests is *in vivo* or *in vitro?* since discordant results have been obtained at various times.

Report of a series of *in vivo* tests with mouthwashes and dentrifices was given in an earlier issue of ALCOHOL NEWS (April, 1937). Results of those experiments, according to the report, showed that nationally advertised mouthwashes did have a favorable antiseptic action under conditions of actual use.

In a recent article in the *Journal of the American Medical Association* a physician concluded, on the basis of *in vitro* tests, that solutions of iodine were the most effective among the antiseptics he studied. His tests touched upon mouthwashes.

Reviewing this work, one commentator adds humorously that he could think of more attractive tasks than swishing a solution of

(Continued on next page)

GERMICIDAL POTENCY OF ALCOHOL UPHELD

The potent germicidal effect of alcohols in definite concentrations is upheld in a new series of tests, results of which are published in a recent issue of *Pharmacy Journal*. Ethyl alcohol, methyl alcohol and isopropyl alcohol are covered in the report.

While pointing out that these alcohols are more effective against vegetative bacteria, the authors present evidence that, with the addition of about one per cent of certain acids and bases, the efficiency of 70 per cent alcohol against bacterial spore suspensions can be materially increased. Inorganic acids in 70 per cent alcohol are more effective than organic acids at similar pH values, the authors point out.

For sterilizing catgut or syringes they suggest a solution of 10 per cent amyl-m-cresol in 70 per cent alcohol as being particularly useful.

New 5-Gal. Drum

The distinctive container shown at left is the new 5-gal. drum used by U.S.I. for shipping absolute alcohol. The main colors are black and silver, with words "Absolute Alcohol" in red.

61.8% OF COSMETIC CONSUMERS USE MOUTHWASHES

Lambert Pharmacal Co.

ADVERTISEMENT—*This entire page is a paid advertisement.*

September ★ **ALCOHOL NEWS** ★ 1937

MOUTHWASH FUTURE LINKED TO MEDICAL AND SALES STUDIES

(*Continued from previous page*)

iodine around in his mouth as a mouthwash.

This latter point, although on the lighter side, is after all perhaps the keystone to an understanding of consumer buying habits. It is linked with actual preferences for frequently used items. It might easily be conceded that the established acceptance of toothpastes and tooth powders has been due in part to their not unpleasant taste.

Dentifrices now stand so firmly entrenched in the market that 98.7 per cent of cosmetic using women buy them, according to a recent survey of 33,459 women. In the same group, however, the number of women buying mouthwashes stood at 61.8 per cent—indicating that an indeterminate but larger market remains to be captured among women. Undoubtedly additional volume could be contributed by men.

Prime Requirements

Whether aromatic, astringent, saline, acid, alkaline or other well recognized preparations are in a position to make the strongest bid for this potential market cannot be answered easily. Probably each will win its share. Antiseptic action and a pleasant taste are prime requirements, however. Effective mechanical action in loosening food particles is important.

There is a variety of alcoholic washes which can be made with Specially Denatured alcohols 38, 38-B, 38-D and 38-E. This type of wash has demonstrated certain merits with the result that it already has a large sale. In view of its possibilities for additional modifications, it undoubtedly warrants still more extensive investigation.

ABSOLUTE ALCOHOL IN STORAGE ABSORBS NO APPRECIABLE WATER

(*Continued from previous page*)

mined by pycnometer) at intervals of a month for U.S.P. absolute ethyl alcohol stored at the Curtis Bay plant of the U. S. Industrial Alcohol Co. in a tank with a capacity of 4,000 gallons:

Date	Volume in Tank	Proof
4-15-35	3200 gals.	199.78
5-15-35	3000 gals.	199.80
6-15-35	3000 gals.	199.74
7-15-35	3000 gals.	199.75
8-15-35	2800 gals.	199.76
9-15-35	2800 gals.	199.85
10-15-35	2800 gals.	199.80
11-15-35	2800 gals.	199.78

"No additional alcohol was placed in the tank during the above period, and the tank was not protected with drying seals. Vents or drying tubes were not used. In spite of the fact that Baltimore has a very humid climate, there was no measurable absorption within the accuracy of the method used for determining proof."

Use Absolute Alcohol In Gum Concentrates

Gum concentrates (such as karaya) made with anhydrous or absolute alcohol are more easily dispersed than those prepared with alcohol of lower strength, the chemist for a leading gum importer emphasized recently.

When alcohol of low proof is used, he explained, water present in the alcohol is taken up by the gum if the concentrate is stored for any length of time. Gum swollen by water, he pointed out, is particularly difficult to shake into suspension. This is a serious drawback when preparing more dilute aqueous solutions from the concentrates as is usually done in beauty parlors.

FOUR S.D. FORMULAS FOR MOUTHWASHES

Formulas of Specially Denatured alcohol authorized by the Treasury Department for use in the manufacture of mouthwashes are offered by U.S.I. in a special high grade.

Authorized compositions for four formulas are given below. The most widely used is S.D. 38-B

S.D. No. 38
To 100 gallons of ethyl alcohol add: 5 gallons of water solution of 60 ounces of zinc chloride, U.S.P., and 10 pounds of any one of the following: (1) methyl salicylate, U.S.P., (2) oil of wintergreen, U.S.P., (3) oil of cassia, U.S.P., (4) oil of cloves, U.S.P., (5) oil of peppermint, U.S.P.

S.D. No. 38-B
To 100 gallons of ethyl alcohol add: a total of 10 pounds of a mixture of two or more of the U.S.P. oils and substances listed below:

- Camphor
- Chlorthymol
- Eucalyptol
- Menthol crystals
- Oil of Bay
- Oil of Bergamot
- Oil of cassia or cinamon
- Oil of citonella
- Oil of cloves or eugenol
- Oil of eucalyptus
- Oil of lavender
- Oil of mustard (volatile)
- Oil of peppermint
- Oil of pine or pine needles
- Oil of rosemary
- Oil of sassafras
- Oil of spearmint
- Oil of thyme
- Oil of turpentine
- Oil of wintergreen or methyl salicylate
- Phenols
- Phenyl salicylate
- Safrol, specific gravity not less than 1.096 and not more than 1.110 at 16° C.
- Thymol

S.D. No. 38-E
To 100 gallons of ethyl alcohol add: 40 ounces menthol, U.S.P. AND 2½ gallons formaldehyde, U.S.P.

S.D. No. 38-D
To 100 gallons of ethyl alcohol add: (1) 5 gallons fluid extract ipecac, U.S.P., or (2) 40 pounds ipecac, U.S.P.

U.S.I. ADVERTISING HEAD TO JUDGE POSTER ART

Outdoor Advertising Inc., national sales representatives for the billboard media, have appointed Leslie S. Gillette, advertising manager of U.S.I., to serve on its Jury of Awards which will judge outstanding merit in outdoor advertising designs. The U. S. Industrial Alcohol Co. is the largest user of outdoor advertising in the anti-freeze field.

The competition, which is open only to art directors of recognized advertising agencies, closes Friday, Oct. 1, 1937. This year $6,000 in prizes and fifteen awards will be given for the best 24 sheet posters.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Milky permanent wave lotions can be made with a new light-colored oily liquid, according to a recent announcement. The addition of small percentages of the liquid to both the ammonia and non-ammonia type of lotion is said to give a milk-like product which will not break down or "ring" on standing. (**No. 1**)

U S I

Odor of new-mown hay may be imparted to eau de Cologne and other perfume bouquets with a natural extract from fresh hay now on the market, according to a recent announcement. Only a minute quantity of the extract is necessary to produce the desired effect, the manufacturer states. (**No. 2**)

U S I

Simple aeration and cooling of liquids may be obtained with a portable agitator now placed on the market. It is powered by a spring motor which is said to run 30 to 35 minutes on one winding. When in use, it is placed over a can or some similar receptacle. (**No. 3**)

U S I

Synthetic tuberose, said to be suitable for blending with, or replacing natural tuberose, has now been placed on the market. Suggested uses are in powders, creams, handerkerchief extracts, gardenia, etc. It is described as non-discoloring. (**No. 4**)

U S I

Pour-lip bottles, reported to prevent dribbling of contents and smearing of labels when portions of contents are measured out, are finding increasing acceptance since their recent introduction. A V-shaped channel concentrates the flow of liquid and a notch in the neck of the bottle provides a resting place for a spoon. (**No. 5**)

U S I

Ampules for powders, crystals and oil solutions, which are featured by the ability to withstand energetic tapping against hard surfaces without breaking, are now being marketed, according to a recent announcement. They are said to embody an almost invisible air-tight seam and mouth-stem and body of different diameters and wall thickness. (**No. 6**)

U S I

An improved laboratory vacuum dryer recently introduced is reported suitable for evaporating chemicals, pharmaceutical, food and similar products sensitive to heat and oxidation. It is also recommended for drying hygroscopic material not readily dried in an atmospheric type oven. (**No. 7**)

U S I

A size for stamping and tooling on water-proofed materials is now on the market. The manufacturer claims that the size penetrates the water-proof coating and, when heat is applied, bonds the metallic foil to the fabric. (**No. 8**)

U S I

Tablet vials, recently introduced, are molded of plastic and opened by turning the cap about 45°. The cap is not removed once the vial has been filled, and but a slight twist brings the two openings into line so that the tablet may be tapped out, according to the manufacturer. Inside dimensions are 1⅞ by ⅝ in. diam. (**No. 9**)

U.S. INDUSTRIAL ALCOHOL CO.

WORLD'S LARGEST PRODUCERS OF INDUSTRIAL ALCOHOL

ETHYL ALCOHOL

SPECIALLY DENATURED-*All Formulas* • COMPLETELY DENATURED-*All Formulas* • ANHYDROUS-*Denatured* • ABSOLUTE-*Pure*

SOLOX-*The General Solvent* • U. S. I. DENATURED ALCOHOL • SUPER PYRO *Anti-Freeze*

PURE (190 PROOF) TAX PAID—TAX FREE

U. S. I.—U. S. P.-*Ethyl* • WEBB'S-*Ethyl*

Executive Offices: 60 East 42nd Street, New York, N. Y. Branches in all Principal Cities.

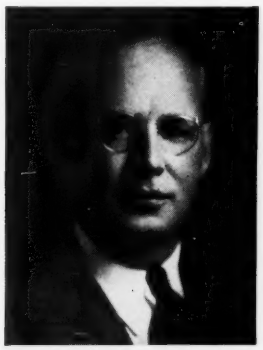
NEWS

People

Puffer Joins Commercial Solvents

Bruce Puffer, formerly sales manager of the Industrial Alcohol Division of the American Distilling Co., has joined the sales department of Commercial Solvents Corp., as a result of the recent transfer of the American Distilling Co.'s industrial alcohol business to Commercial Solvents.

Mr. Puffer has devoted many years to sales of industrial alcohol and is a well-known figure in this field. He is a native of Minneapolis, Minn., attended Kenyon College, Gambier, Ohio, left college to enlist in the U. S. Army during the World War. He served in the Field Artillery.



BRUCE PUFFER

After the war, he was employed by the Puffer, Hubbard Mfg. Co., of Minneapolis, and later by the J. I. Case Plow Works, where he was engaged in the promotion of tractors in Canada.

In 1920, because of his proven sales ability, he was selected to establish a branch office in Minneapolis for the U. S. Industrial Alcohol Co. Later on, he was made manager of this company's office in St. Louis and was afterwards transferred to Cleveland. He remained with U. S. Industrial Alcohol until 1928, when he left for Detroit to join the sales organization of the Forbes Varnish Co., Cleveland.

When the American Commercial Alcohol Corp. was formed in 1929, he became Assistant Sales Manager of this organization, covering the territory from Cleveland east, with headquarters in Philadelphia. In 1932, he was appointed Sales Manager of the Industrial Alcohol Division of the American Distilling Co., a subsidiary of American Commercial Alcohol, and moved to New York.

In joining Commercial Solvents, Mr. Puffer brings with him to his new connection the personnel of American Distilling Co.'s industrial alcohol sales division, so that the American Distilling's customers will be served by the same men as in the past.

Mr. Puffer is a resident of Philipse Manor, North Tarrytown, N. Y.

Malmstrom to Europe

N. I. Malmstrom of N. I. Malmstrom & Co., Brooklyn, producers of lanolin, sailed August 19 on the SS Kungsholm of the Swedish American Line for a two months trip abroad.

Mr. Malmstrom will first visit Stockholm, the shrine of his parental ancestry, and after renewing old acquaintances will make an extended tour of the continent. Mr. Malmstrom expects to visit Germany, Holland, Belgium, France, Poland, England and Ireland.

Merz to Hawaii

August Merz, vice-president of the Calco Chemical Co. and president of the Synthetic Organic Chemical Manufacturers' Association, and Mrs. Merz have gone to Hawaii for the wedding on September 16 of their son, August Merz Jr. and Frances M. Huddleson, daughter of Colonel and Mrs. George Huddleson of Schofield Barracks, Hawaii.

Lueders Honors Buehler

Frederick G. Buehler, secretary and director of George Lueders & Co., was honored on August 24, the occasion of completion of his twenty-fifth year with the company. With the entire force of employees assembled in the office, Edward V. Kileen, president of the company, paid a glowing tribute to Mr. Buehler as the youngest member of the Quarter Century Club, and as the only member who has risen from the humblest position—that of errand boy—to the position of secretary and director. Mr. Kileen spoke most highly of Mr. Buehler's father who served as transportation manager of the company for forty-four years and who passed away in February 1936.

Mr. Buehler's desire to learn and ability to absorb facts, coupled with his genial disposition were certain to spell success, said Mr. Kileen, who also predicted that the honored guest was only part way along the road. Mr. Kileen also stated that Mr. Buehler's success completely exploded the theory that in order to succeed one must have a relative or friend as director or officer.

Mr. Buehler was presented with the company's Badge of Honor, worn by employees serving twenty-five years or more. He also received a handsome wrist watch from the company suitably engraved. Other individual gifts were a complete silver service from the employees, a cocktail shaker, and other souvenirs of the occasion. The affair closed with a luncheon to Mr. Buehler at the Drug & Chemical Club, with Mr. Kileen as host.

Mr. Buehler is number twenty-four in the Quarter Century Club of the company, the average length of service of the members of the club, now living, being thirty-nine years. Considering the fact that the company was started by the late George Lueders fifty-two years ago, this is a remarkable record, said Mr. Kileen.

MENNEN ANNOUNCES THE "GADGET"

and Ridgelo is helping sell it!

Look at this useful combination offer... no wonder men like it! Look at the novel compact display container that sells it... no wonder it's winning front position. It packs complete. Setting up is as simple as opening a book.

The strong, pure white Ridgelo clay coated boxboard lends itself to rigid packing that protects the merchandise. Ridgelo means the brightest printing, the highest attention value possible. Your cartons and displays can be just as impressive! Bigger returns make Ridgelo cartons pay!

"Used by leading converters everywhere"

Ridgelo
CLAY COATED

This display was designed and made by the International Folding Paper Box Co., Inc., North Bergen, N. J.

RIDGELO—"THE BEST KNOWN NAME IN BOXBOARD"

MADE AT RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Blake, Moffitt & Towne and Zellerbach Paper Company, Pacific Coast • A. E. Kellogg, St. Louis • W. P. Bennett & Son, Toronto

Plaut Describes Training

There is an article by Edward Plaut, president of Lehn & Fink Products Corp., Bloomfield, N. J., in the August issue of "Executives Service Bulletin," published by the Policyholders Service Bureau, Group Insurance Division of the Metropolitan Life Insurance Co. In it Mr. Plaut describes the Lehn & Fink Executives Training Course, telling how the candidates for the course are selected and what success they have made in the business world.

McDonoughs to Europe

Francis J. McDonough, president of the New York Quinine & Chemical Works, accompanied by Mrs. McDonough, sailed for Europe aboard the Bremen on Thurs-

F. J. McDONOUGH

day, August 19 on a foreign trip. Mr. and Mrs. McDonough are celebrating their twenty-fifth wedding anniversary abroad. They will return about the end of September.

La Bue Joins Turner

P. J. La Bue has been since September 1 a member of the sales department of Joseph Turner & Co. Mr. La Bue was formerly connected with the J. T. Baker Chemical Co. and previous to that he was with Merck & Co., Inc.

Shesgreen Joins Pierre Villon

Pierre Villon, New York, announces the addition of Fred Shesgreen to the sales force. He will represent the firm in the Pacific Coast territory where he was formerly associated with Strasska Labs., American Druggists Syndicate and others. He is making his headquarters in Los Angeles.

Thiele Sails Abroad

Fred Theile, president of P. R. Dreyer Inc., sailed on the S. S. Manhattan, August 11 for a business trip to England and the Continent. He will visit customers, principals and representatives and will spend some time in Grasse with Bertrand Freres. He will be away about six weeks.

Merck on Colgate Directory

In accordance with the recent decision of Colgate-Palmolive-Peet Co. that the public should be represented on its board of directors, George W. Merck, president of Merck & Co.; N. F. S. Russell, president of the U. S. Pipe & Foundry Co.; and W. Gibson Carey, Jr., president of Yale & Towne Co. have been elected to fill vacancies on the board.

Mr. & Mrs. Kraaz Visit Son

Henry Kraaz, managing director of Ernst Schliemann's Oelwerke, Hamburg, Germany, and Mrs. Kraaz are in this country for a few weeks visiting their son who is associated with Kuhne Libby Co., New York.

Mundheim to Europe

Marshall Mundheim, vice-president of Lightfoot Schultz, Jaquet and Antoine, New York, and Mrs. Mundheim sailed on the SS Champlain August 14 for a trip to Europe. They will return the end of September.

Fuller Joins Pepsodent

Dane D. Fuller has been made Chicago district manager of the Pepsodent Co. He was formerly president of the Lavena Corp.

Bauer Abroad

Frank M. Bauer of Pfaltz & Bauer, sailed August 19 on the Bremen for a six-

FRANK M. BAUER

weeks trip to Europe. He will return the end of September.

Sigler Joins Jergens-Woodbury

Carl H. Sigler, formerly with Bauer & Black, has been appointed eastern sales manager of the Jergens-Woodbury Sales Corp., succeeding J. W. Bray who has resigned.

Kelly to Promote Palmolive

Philip J. Kelly has been appointed sales promotion manager for Palmolive soap by the Colgate-Palmolive-Peet Co.

Schisler With Zonite

J. R. Schisler, formerly sales manager of the R. L. Watkins Co., and Affiliated Products, New York, has joined the sales organization of Zonite Products Corp.

J. & J. Advances L'Hommedieu

P. D. L'Hommedieu, who has been director of Johnson & Johnson's dental division, has been appointed manager of the eastern division general line. B. T. Cowper, formerly assistant to Mr. L'Hommedieu, will succeed him as director of the dental division.

Glynn Joins Alphaden

Thomas F. Glynn, treasurer and space buyer of Harry C. Phibbs Advertising

THOMAS F. GLYNN

Company, resigned that position September 1, to become general manager of The Alphaden Company, Inc., pharmaceutical manufacturers located at 154 East Erie St., Chicago.

Kramer to Coast

Robert A. Kramer of the Th. Goldschmidt Corp., New York, is on an all-air trip to the Coast. He will be gone about three weeks, during which time he will fly to Los Angeles via Chicago and return from there to New York via Atlanta. He plans to stop at several other cities en route and, because of the fact that he is using airplanes exclusively, he still has time for a week on the West Coast.

Mildred Nell With Charles of Ritz

Richard Salomon, general manager of Charles of the Ritz, New York, announces that Mildred Nell, formerly of Harper's Bazaar, is now associated with the organization. Mrs. Nell's work will be in connection with styling, the creation of new products and ideas, sales promotion, and contact with stores and the press.

Moore's Son Completes Tour

Pat Moore, Ungerer's tank car essential oil representative, reports that his son, aged 16, has just completed a 1,200 mile bicycle tour of New York State.

Our

GREATEST ASSET

is your confidence

Therefore our sincere aim is to continuously merit the high trust that you, our customers place in us.

Our every effort is made to hold Kolmar products and service over and above the most stringent requirements.

We believe that our own steady growth, plus the resale records of our customers, present important evidence of the uniformity and fine quality of Kolmar products.

Kolmar laboratories

MILWAUKEE • • • HOBOKEN

Makers of: Smooth-as-Silk Dry Rouge, Permindel Lipstick, Kolmar Serrate Puffs and other make-up products in bulk or in complete packages.

These Kolmar Representatives will be pleased to serve you:

Norman Kole
Chicago, Ill.
11-108 Merchandise Mart

Warren Curry
Atlanta, Ga.
2895 Peachtree Road

R. G. F. Byington
Los Angeles, Calif.
1709 West 8th St., Room 504

B. T. Bush Resigns

Burton T. Bush has resigned his position as manager of the Aromatics Division of Naugatuck Chemical, which position Mr. Bush occupied since the establishment of this division by Naugatuck. Mr. Bush has made no announcement of his future plans.

George V. Bates Marries

George Valentine Bates, of the Solvay Sales Corp., New York, and Dorothy M. Robertson, daughter of James M. Robertson of Syracuse were married in the garden of Mr. Bates' home in Mamaroneck on August 14.

Jay Leaves Foster-Millburn

George S. Jay has resigned his position as general manager of the Foster-Milburn Co., Buffalo, and has returned to his home town of Shenandoah, Ia. Mr. Jay

GEORGE S. JAY

has long been the proprietor of a very successful drug store in Shenandoah. Up till recently this store was supervised by Mr. Jay's father, but the elder Mr. Jay is no longer active. In addition to overseeing the drug store, Mr. Jay plans to enter the manufacturing field in a limited way.

Wilckens Joins Trade Scientific Labs.

Trade Scientific Laboratories, Inc., New York; manufacturers of private brand cosmetics, announce that Alex W. Wilckens has become associated with them as sales manager.

Sterling Honored

M. M. Sterling, president of Fougera & Co., New York, has been made an officer of the Legion of Honor by the French government in recognition of distinguished service to France. He has been a chevalier of the Legion since 1924.

Roden, A. N. A. Chairman

H. W. Roden, vice-president of Johnson & Johnson, New Brunswick, N. J., is chairman of the program committee for the annual meeting of the Association of National Advertisers, Inc., which will be held at the Homestead, Hot Springs, Va., October 27 to 30.

Brooks on Air

Herman L. Brooks, general manager of Coty, Inc., and president of the Toilet Goods Association spoke over the New York Broadcasting System network Friday, September 3. As guest speaker on Postal Telegraph's "Forward America" program, he discussed the progress of the cosmetic industry in this country.

Clark Joins Merck

Dr. Ralph W. Clark, until recently Acting Professor of Materia Medica, University of North Carolina College of Pharmacy, has joined the pharmacy service staff of Merck & Co.

Dr. Clark attended Cornell College (Iowa) from 1918 to 1920 and later the University of Wisconsin where he received degrees of B. S., M. S. and Ph. D. He served as a pharmacist at the Wisconsin General Hospital and later in several retail pharmacies. From 1930 to 1934 he was Secretary of the Wisconsin Pharmaceutical Association. He also served respectively as editor of the "Wisconsin Druggist," Instructor of Pharmacy, University of Wisconsin, contributing editor of the "Carolina Journal of Pharmacy" and the "Northwestern Druggist." He has been active in committee work in the American Pharmaceutical Association and the American Association of Colleges of Pharmacy.

DR. RALPH W. CLARK

Rubinstein Appoints Titus

Helena Rubinstein, Inc., announces the appointment of Horace Titus, son of Madame Rubinstein, as advertising manager of the company. He succeeds Frances Olivier who has resigned after four years as advertising director of the company.

Announcement has also been made that Betsy Ann Schellhase will act as associate advertising manager. To assume her new post, Miss Schellhase has resigned from Blaine Thompson Co., where she was account executive for Helena Rubinstein, Inc.

U. S. P. Changes Planned

Dr. E. Fullerton Cook, chairman of the committee on revision of the U. S. P. XI has announced that 100 additional subjects have been proposed for revision. Among the changes proposed are the use of other oils than linseed in the preparation of sapo mollis and the elimination of the rosin test for benzoin.

Among the subjects now being studied for possible revision in a second U. S. P. XI Supplement are the following:

Dosage of iron preparation; the adoption of a test to prove the absence of deuterium oxide (heavy water) in distilled water; change of the alcohol range of Tincture of Iodine to from 80 to 87.5 per cent; adoption of a test for tea seed oil in olive oil; adoption of separate titles for heavy and light liquid petrolatums so that they may be prescribed under these terms;

Also omission of glycerin in the preparation of sapo mollis in large operations, and permission to use other oils than linseed; a change in the factor for sulfocalicylic acid from 0.02181 gram to 0.0109 gram; reduction of the sugar content and the replacement of the hypophosphorous acid with citric acid, in Syrup Ferric Iodide.

Also granting of permission to use the term U. S. P. in connection with glycerin suppositories containing 95 per cent of glycerin; adoption of prophylene glycol stearate of a general suppository base; and adoption of sectrophotometric methods of determining Vitamin A content of fish oils.

Other proposed changes deal with specific phases of the analysis and assay of U. S. P. drugs.

Dr. Miles, Saraka Pacts

Contracts with the Dr. Miles Laboratories of Elkhart, Ind., and the Schering Corporation, Bloomfield, N. J., makers of Saraka, were the first to be approved by the Oklahoma Fair Trade Committee following the passage of the Fair Trade Law in this state.

Plough Buys Argotane

Abe Plough, president of Plough, Inc., has purchased the good will and assets of Argotane, Inc., proprietary medicine manufacturer, this city, for $1375. The sale was confirmed recently when C. R. Graves, referee in bankruptcy, gave the court's approval.

Badanes To Be Honored

A testimonial dinner will be tendered Harry Badanes, vice president of McKesson & Robbins, Inc., New York City, on October 21 by his friends. Hundreds of well-known figures in the drug-cosmetic and allied fields are expected to attend.

Two million new born every year are ushered into the great American family. Each birth calls for infinite precautions against infection—and it is to the everlasting credit of the medical profession that the number who fail to thrive is surprisingly few.

In countless thousands of hospitals, surgeons count on Phenol to combat infection. In a sense it can be said they depend on Dow for this company operates the world's largest phenol plant.

Such a responsibility cannot be taken lightly. On the contrary, Dow is keenly aware of its charge. Moreover, Dow realizes that hardly a single one of these new Americans can live out its life without counting directly or indirectly on many Dow products.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Branch Sales Offices: 30 Rockefeller Plaza, New York City; Second and Madison Streets, Saint Louis; 135 South La Salle Street, Chicago

A PARTIAL LIST OF

DOW PHARMACEUTICAL CHEMICALS

Acetphenetidin, U.S.P. • Antipyrine, U.S.P. • *Benzoic Acid, U.S.P.* • *Minor Bromides* • Carbon Tetrachloride, C.P. • Chloroform, U.S.P. • *Epsom Salt, U.S.P., Recrystallized* • Ferric Chloride, U.S.P., X (Solution or Crystals) • *Glycine* • *Magnesium Sulphate, Desiccated* • Phenol, U.S.P. • Acetyl Salicylic Acid, U.S.P. (Powder or Crystals) • Acetyl Salicylic Acid, Granulation, 10% starch (White, Pink, Green) also 16% and 20% starch (White) • Methyl Salicylate, U.S.P. • Salicylic Acid, U.S.P. • Sodium Salicylate, U.S.P. • *Minor Salicylates* • *Sodium Benzoate, U.S.P.* • Strontium Bromide, N.F. • Tetrachlorethylene, *Purified, N.F.* • *Trichloracetic Acid, U.S.P.*

*Trade Mark Registered U. S. Patent Office

*DOW

Companies

Comm. Solvents Expands in Alcohol

Commercial Solvents Corp. has signed a contract with the American Distilling Co. and its affiliate, American Commercial Alcohol Corp., which brings about a realignment in the industrial alcohol field. This contract, according to a recent announcement by William D. Ticknor, President of Commercial Solvents, brings about the following changes:

American Distilling Co. and its affiliate withdraw from the industrial alcohol field and will hereafter devote themselves to the veberage spirits business.

Commercial Solvents takes over the industrial alcohol business of the American Distilling Co., and its affiliate, including goodwill, permits and that part of their selling forces that specialized in industrial alcohol.

Commercial Solvents buys no plants or other physical property, but will be supplied, as required, with industrial alcohol from the Philadelphia, Pa., and Sausalito, Calif., plants of the American Distilling Co. Manufacture of this product by the American Distilling Co. will be exclusively for Commercial Solvents and under Commercial Solvents supervision.

Former customers of the American Distilling Co. will receive improved service because of Commercial Solvents more extensive facilities. In most cases, they will continue to be served by the same salesmen.

"By this arrangement," states Mr. Ticknor, "Commercial Solvents Corporation expects to increase its volume of business in industrial alcohol on a profitable basis. It will also be benefited by having a point of production on the Atlantic seaboard. which it has heretofore lacked. By being able to ship from Philadelphia, it can, in many cases, make quicker deliveries and effect a substantial saving in freight rates.

"The many industrial alcohol customers of American Commercial Alcohol Corp. and the American Distilling Co. will be given improved service by Commercial Solvents Corp., because of this company's extensive warehouse, research and other facilities for rendering service of all kinds.

Eye-Gene Co. in Radio City

The Eye-Gene Co., with headquarters in Chicago, has opened a New York office at 9 Rockefeller Plaza. Alexis Thompson, vice-president of the company is in charge of the New York office. Mr. Thompson was formerly president of the Lucidin Co., New York, which company has since been liquidated and the product "Lucidin" taken off the market. The entire personnel of the Lucidin Co. is now connected with the Eye-Gene Co. Milton Morse, president of the company is in charge of the Chicago office.

Ybry in Bankruptcy

An attempt to sell the assets of Ybry, Inc., 20 East 49 st., New York, to satisfy the claims of the Government was declared void by Judge Leibell in the U. S. District Court and a stay was issued to prevent the Government from taking any steps to satisfy its claim for thirty days.

The debtor filed a voluntary petition in bankruptcy July 27 at 9.28 A. M. and Judge Knox stayed a sale of the assets scheduled to take place at 10 o'clock by citing the Collector of Internal Revenue to show cause why he should not be restrained from selling the debtor's assets to satisfy the tax claims.

Although notice of the action taken was given to the Collector of Internal Revenue by telephone, he proceeded with the sale, after having announced that, if the order which had been informally given should prove valid, deposits made by successful bidders would be returned.

Judge Leibell declared that "it was the duty of those conducting the sale to suspend proceedings and inquire as to the terms of the order and the nature of the proceedings in which the order was issued." The order containing the stay issued by Judge Knox was ruled valid and the attempt to sell the assets was ruled to be void.

The thirty day stay is to afford the debtor an opportunity to effect a composition in bankruptcy.

Flora Appoints Mantius

Erich G. Mantius, 30 Irving Pl., New York, has been appointed exclusive representative in the United States for Chemical Works Flora, Dubendorf-Zurich, Switzerland.

Molinard Enlarges Staff

Molinard Inc. announces several additions to its sales staff covering Atlantic, southern and middle western states. Paul Reuter, formerly with Houbigant, has been appointed for the middle western territory. J. Ben Haroche, formerly with Coty and Caron, will represent Molinard in the metropolitan district, including New Jersey, Delaware, District of Columbia and Maryland.

James M. Arkels, formerly with Parfums Lengyel, has been assigned the southern states where he has traveled for many years.

Stanis Ltd. Changing Marketing

Stanis Ltd., Chicago, a mail order house that has been in business for forty years, is now planning a new line attractively packaged. The firm will change its marketing methods from mail order to established retail outlets. An attractive booklet which illustrates rouge and lipstick shades in natural colors and explains the line in detail, has just been completed.

Revson Offers New Color

R. F. Revson Co. announces the production of a new cosmetic lake, "Cosmetic Red No. 56." This is said to be a most excellent color to be used in the preparation of lipsticks, giving blood red shades. Samples are available to those interested.

Longview Wholesale Drug Formed

Longview Wholesale Drug Co., Longview, Texas, is a new company headed by B. L. Stringer, M. Stringer and J. G. Goode.

Executives and Sales Staff of Mixing Equipment Co. in front of the Rochester, N. Y. offices on the occasion of the company's Annual Sales Conference—August 13th and 14th.

Meyer Brothers 85th Year

Meyer Brothers Drug Co., with headquarters in St. Louis and branches in New Orleans and Little Rock, celebrated its eighty-fifth anniversary September 12.

The business was founded in 1852 by Christian F. G. Meyer in Fort Wayne, Ind. In 1857 he was joined by his brother and the business became Meyer & Brother. In 1865 St. Louis was chosen as the logical distribution center for the United States and the founder moved to St. Louis, leaving his brother in charge of the Fort Wayne plant. When the business was incorporated in 1889, it became Meyer Brothers Drug Co.

The present officers of the company are: Carl F. G. Meyer, president; Adolph C. Meyer, Stanley B. Simpson and Carl F. G. Meyer III, vice-presidents; John C. Vaughan, treasurer; Edward P. Schrader, secretary; Ewald Habegger; vice-president and manager of the New Orleans branch; R. R. Chamberlain, vice-president and manager of the Little Rock branch.

Fight Deodorant Damage

The American Institute of Laundering, owned and operated by 2,300 commercial laundries throughout the country has announced another part of its campaign to counteract the fabric damage complaints caused by deodorants. Member laundries are distributing to consumers through the individual packages a large amount of educational material stressing the harmlessness to fabrics of Mum and advising the public against those deodorants which cause fabric damage.

Bristol-Myers is cooperating with the laundry industry and is supplying one million of these educational leaflets telling that Mum has been awarded the Textile Approval Seal of the laundry industry and is therefore harmless to fabrics. Bristol-Myers is also planning to present the same story to home economics teachers and other consumer groups such as women's clubs.

MM&R Offer Orangesol

Magnus, Mabee & Reynard, Inc., New York, has perfected Orangesol MM&R, a concentrate possessing the rich odor of orange blossoms. A companion product of Rosesol MM&R, one ounce of the new concentrate makes a gallon of imitation orange flower water when mixed with water or acqueous solution.

Danco Appoints Lapine & Co.

Gerard J. Danco, president of Gerard J. Danco, Inc., New York, has announced the appointment of Arthur S. Lapine & Co. as the firm's representative in the middle west. The Lapine company is located at 114 W. Hubbard st., Chicago.

Procter & Gamble's Century

Procter & Gamble celebrated its hundredth anniversary in August. The firm was founded in 1837 by William Procter, a candle manufacturer, and James Gamble, a soap manufacturer. The company was one of the country's earliest national advertisers, placing its first ad in 1892. Since that time it has been one of the country's leading advertisers.

Poses Advanced to President

J. I. Poses, who has been vice-president of the A. A. Vantine Products Corp., New York, and its subsidiary companies, has been elected president and treasurer of A. A. Vantine Products Corp. and the d'Orsay Sales Corp., New York. He succeeds L. D. Bloch who has resigned as president of both companies.

J. I. POSES

M. G. Condon has been named vice-president and secretary of A. A. Vantine, and A. B. Faragoh is vice-president and secretary of d'Orsay.

Fischbeck Appoints Davis & Davis

Davis & Davis, Inc., Wrigley Bldg., Chicago, has been appointed sales representative in the Chicago and Milwaukee territory for Charles Fischbeck Co., Inc. Colonel Alex M. Davis and his son, Edward Davis, have been well known in the Chicago territory for the past sixteen years. This appointment makes it possible for Fischbeck to maintain stocks of "Cefco" products in this territory.

LaSalle Perfumes & Cosmetics

La Salle Perfumes & Cosmetics Inc., Highland Park, Mich., has been formed by Ralph E. Collins, Mary V. Collins and Frederick V. Collins for the manufacture and distribution of perfumes and cosmetics.

Bivens Forms Wholesale House

E. A. Bivens has founded the Central Drug and Specialty Co., a wholesale drug business, located in Cottonport, La.

Nairex Products Co. Formed

Mrs. Edith C. Black has formed the Nairex Products Co., 2559 Hillger ave., Detroit for the manufacture of "Nairex," a proprietary remedy for the relief of hay fever.

"Falba" Booklet

Pfaltz & Bauer, Inc., New York, has issued a booklet dealing with "Falba" Absorption Base. In it are assembled the salient features regarding many of the uses and possibilities of "Falba" together with formulas. Copies are available upon request.

Cosmetic Sales Personnel

Lucille Buhl has organized Cosmetics Sales Personnel, with offices and a school located at 342 Madison ave., New York. Through this organization, she plans to give intensive professional training to women interested in becoming beauty counsellors and intelligent sales producers. She plans to make it a source from which manufacturers may obtain trained representatives.

Hydroxylamine Salts

A new plant has been installed by Allen E. Rogers Laboratories in Brooklyn for the manufacture of hydroxylamine hydrochloride and sulfate. These rare chemicals are used in photographic developers, in the treatment of certain skin diseases and in organic and inorganic syntheses. A booklet describing these compounds in detail is to be issued in the near future.

Laco Products Acquires Pompeian

Laco Products, Inc., Waltham, Mass., has announced that it has acquired the Pompeian Co. Inc., of Bloomfield, N. J. The Laco company is now making plans for promoting the Pompeian line of cosmetics and beauty preparations.

Chris Nelson Establishes Business

Chris Nelson, formerly general manager of the Studio Cosmetics Co., has established his own business, Nelson Laboratories, located at 1654 No. Harvard Blvd., Hollywood, for the manufacture of cosmetics. He will specialize in bulk cosmetics for the trade.

A. M. A. Accepts

VINETHENE

Vinethene—Vinethenum—Vinyl Ether For Anesthesia-Merck—CH_2:CHOCH:CH_2 with the addition of 3.5 per cent. absolute alcohol and 0.01 per cent. of phenyl-a-naphthylamine.

The Council voted to accept Vinethene-Merck for a period of one year for use as an anesthetic in short procedures and to publish this report at the time of acceptance.

. . . IT'S NEVER LUCK!

Men and methods, to a large degree, determine skill in manufacturing Fine Chemicals. Baker's constant flow of *purity by the ton* is the result of unique control methods and ceaseless testing. It's never hit or miss. It's never luck.

These control methods are very similar to those used in the manufacture of Baker's famous C. P. Analyzed Reagents, chosen for their exceptional purity by the nation's foremost research chemists. The men who use these methods to manufacture Baker's Fine Chemicals grew up in the atmosphere of defining purity to the decimal. Baker's fundamental principle —"There shall be no compromise with quality"—never gives way to short cuts.

Leading pharmaceutical manufacturers appreciate this Baker principle. More and more are safeguarding their precious trade-marks—their reputation for quality—by buying their Fine Chemicals from Baker.

If you, by chance, have yet to discover Baker as a source of your Fine Chemicals, we invite you to get acquainted. See the Baker representative the next time he calls. It's a business friendship you'll appreciate over the years—one of which we are sure you will be proud.

J. T. BAKER CHEMICAL CO., Phillipsburg, New Jersey

NEW YORK
420 Lexington Avenue

PHILADELPHIA
220 South 16th Street

CHICAGO
435 North Michigan Avenue

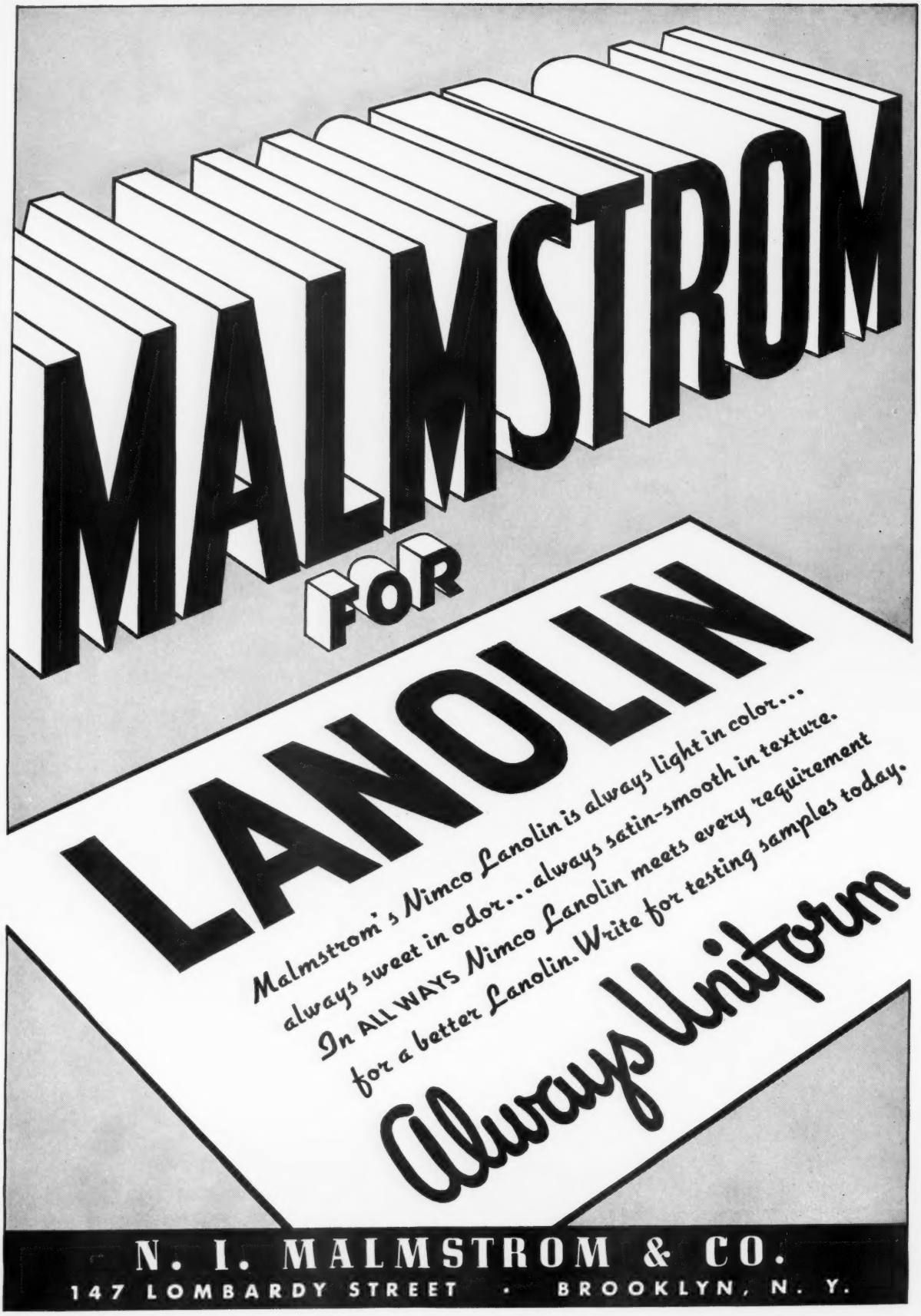
ANALYZED REAGENTS — Baker's — FINE CHEMICALS

A partial list of Tonnage Fine Chemicals held under rigid control, at no price premium.

- Alkali Bromides
- Potassium Iodide
- Magnesium Oxide
- Cream of Tartar
- Bismuth Subcarbonate—Subnitrate and other Salts
- Caustic Potash and Soda Sticks and Pellets
- Rochelle Salt
- Lead Acetate
- Salicylates

Baker's fine chemicals

for Pharmaceutical Manufacturers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Malmstrom's Nimco Lanolin is always light in color...
always sweet in odor...always satin-smooth in texture.
In ALL WAYS Nimco Lanolin meets every requirement
for a better Lanolin. Write for testing samples today.
Always Uniform
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147 LOMBARDY STREET · BROOKLYN, N. Y.

EXALTOLIDE

by CHUIT, NAEF & CIE

VIBRANT as sunshine and pulsating as the infusion of flowering blossoms with the Spring breeze—such is the effect of EXALTOLIDE on your perfume. EXALTOLIDE is the most highly developed, purest and strongest fixative body of a Musk-Ambergris character yet produced.

Perfume extracts, powders of any type, and creams daily are being improved and rounded by its aid, ***without change of odor character.*** A test will startle you! The value of Exaltolide is priceless—its use economical.

Your Descriptive Booklet Awaits

Photograph of Exaltolide crystals indicating the unique physical appearance of the Chuit Naef product.

FIRMENICH & CO., INC.

135 FIFTH AVENUE, NEW YORK, N.Y.

These and other Monsanto Medicinals may be used with confidence. Their effectiveness has been proved thru many years of satisfactory performance.

Monsanto Chemical Company
St. Louis, U.S.A.

NEW YORK • CHICAGO • BOSTON
CLEVELAND • BIRMINGHAM • CHARLOTTE
SAN FRANCISCO • MONTREAL

Louise Rogers Expands

Louise Rogers, Inc., formerly located in Larchmont, N. Y., has moved to larger quarters at 2 Hamilton Avenue, New Rochelle, N. Y., in order to provide larger space made necessary by the rapid expansion of its business.

Uth-O-Uth Labs. Formed

The Uth-O-Uth Laboratories have been established at 2561 West Pico Blvd., Los Angeles, for the manufacture of cosmetics by Robert Sharrock and Jeanette Ramsey.

Germaine Monteil Appoints King

Ralph MacRae King has been appointed sales manager of Germaine Monteil Cosmetiques Corp., New York.

Murray Breese Expands

Murray Breese Associates, Inc., has leased new, larger quarters in the Real Estate Board Building at 12 East 41 st., New York. The company will occupy the entire sixteenth floor of the building which will give them 33 per cent. more space than their former quarters.

Vapo-Rise Products Formed

Vapo-Rise Products Inc. has been formed at 428 North Lakewood ave., Detroit, for the manufacture of an electric vaporizer and drops to be used in treating head colds.

Ex-Lax Improved

Ex-Lax, Inc., Brooklyn, N. Y., has announced that Ex-Lax has been scientifically improved. The taste is said to be more pleasant and the action is said to be more efficient and gentler. The package will not be changed and plans have been made for an intensive magazine advertising campaign.

Amsel Buys Virtus

Nathan A. Amsel has purchased the assets of Virtus Hair Preparations, 693 East 138 st., New York. With his son he has formed N. A. Amsel & Son, Inc. which will distribute the Virtus products. Mr. Amsel has been connected with the hair tonic industry for the past thirty years and was formerly with F. W. Fitch Co.

A.P.M.A. History

Ralph R. Patch, chairman of the publication committee of the American Pharmaceutical Manufacturers Association, has announced that its historic document, "A Quarter of A Century of Progress" is now ready for delivery. Copies may be obtained from the association at 608 Fifth ave., New York. The price of the first copy is $7, second copy $6, third copy $5 and additional copies $4.

Pace Buys No-Nod

Pacific Products Co., maker of No-Nod, an anti-sleep tablet, specifically recommended for night drivers, has been purchased by William Pace, head of the Puf Co. The company will be moved to 517 E. Larned St., Detroit.

Upjohn Expands Again

The Upjohn Co., Kalamazoo, has taken a five-year lease on 30,000 square feet of space in the former Midland Electric Building, Cleveland.

Noxzema in England

Plans are being considered for the opening of a plant in England by the Noxzema Chemical Co., Baltimore.

Int. Cellucotton Plan

The International Cellucotton Products Co.'s 10 per cent plan by which it rewards both large and small dealers for promoting its products is discussed by H. A. Jost, vice-president in charge of sales, in the August 12 issue of "Printers' Ink." The 10 per cent allowance is not charged to advertising and complies with the Robinson-Patman Act.

The company pays the allowance to any dealer who signs an agreement to furnish proof of the size of his purchases; not to try to switch a customer who asks for one of the company's products to a competing brand; and to display and promote the International products equally at all times with competing products.

Soon after July 1 and January 1 each year the company mails to the retailer a check for 10 per cent of the purchase price of all International products reported by him during the previous six months.

A.Ph.A. Cosmetic Council

A number of resolutions were adopted by the House of Delegates of the American Pharmaceutical Association at its convention in New York. One resolution recommended formation of a council to study cosmetic formulae and material; others endorsed the United States Public Health Service's campaign against venereal disease and criticized Congress's failure to enact desired food, drug and cosmetic legislation. Another resolution, citing the fair trade laws which have been passed, deplored the "campaign of obviously inspired misstatements, willful perversions and patent attempts on the part of certain newspapers to confuse and to mislead the public as to the immediate and ultimate economic effect of this law." Another urged "all governmental agencies to distribute necessary medicaments to the public through the medium of retail pharmacies," and expressed appreciation for the enactment of the Miller-Tydings Bill.

Lillian S. Dodge, president of Harriet Hubbard Ayer, Inc., entertaining college delegates at luncheon on the terrace of her country home, Sefton Manor, Mill Neck, L. I., after a conference on college beauty requirements which resulted in the creation of the Ayer "Campus Carryall."

Your product may have many things in common with the KOALA

The little Australian Teddy Bear (Koala) would be a pet the world over except for one thing—it can only live in Australia. Its entire diet is made up of the leaves and twigs of the variety of Eucalyptus Trees found in Australia. You, too, may find that Australian Eucalyptus, and only Australian Eucalyptus, is highly essential for your product.

Demand KOALA Brand

ORBIS EUCALYPTOL C. P.

GENUINE AUSTRALIAN EUCALYPTUS BASE

Although eucalyptus is exported from Japan and other countries, our research chemists find that none has the unique medicinal benefits found *only* in the fine Australian varieties used in ORBIS Eucalyptus and ORBIS Eucalyptol.

Eucalyptol (C.P.) has many other fine ingredients and refinements which make it the odds-on favorite of most of the leading manufacturers and dispensers of nose and throat remedies.

You are cordially invited to visit our Newark, N. J., factory and see actual tests and gradings made.

Send for our new price list

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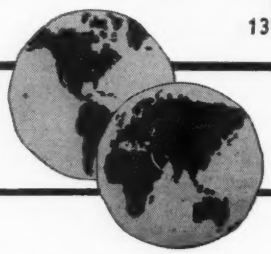
PHILADELPHIA
253 Bourse Bldg.

BOSTON
131 State Street

LOS ANGELES
742 So. Hill St.

Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss



Cosmetics in N. Y. World Fair

A committee of the Toilet Goods Association, composed of H. L. Brooks, president of the association and general manager and treasurer of Coty; P. H. Douglas, assistant to the general manager of Bourjois and Cecil Smith, president of Yardley & Co., is considering plans for a cosmetic display at the New York's World Fair in 1939.

The display will be designed to offset the attacks on the toilet goods industry which have resulted in sales resistance and needless and dangerous state and federal legislation and to demonstrate to the public the true importance of cosmetics and perfumes in commerce.

It has been learned that the fair will erect a building to house exhibits of the trade and also include an auditorium capable of seating about 1000 people. The fair authorities have also been asked to provide in this building a clubroom in which exhibitors could receive buyers. The committee has said that many leading houses have already indicated that they would take space.

Cosmetic Course in N. Y. U.

For the fall term of 1937, New York University offers again the course in Cosmetic Hygiene introduced last year. An entirely new full-year course, Advanced Cosmetology, open only to graduates of the recognized beauty culture schools, to teachers and experienced hairdressers and cosmetologists who wish to review or build up their background in beauty science, will also be offered. Both courses will be under the direction of Florence E. Wall.

F. T. C. Restrains Arpul

The Federal Trade Commission has ordered the Arpul Co. Inc., New York, to cease and desist from certain practices in the sale of Ortosan which are deemed unfair competition. The order prohibits representations that the product is five creams in one; the most highly praised skin cream in the world, having the endorsements of leading medical authorities and beauty specialists; and that its use will restore youthful contours to the face, chin and neck, erase wrinkles and blemishes, banish large pores and fine lines and immediately produce a fresh, healthy skin.

Chicago Golf Winners

Winners in the fourth tournament of the Golf Auxiliary of the Chicago Drug & Chemical and Chicago Perfumery, Soap & Extract Associations, held at the Killdeer Country Club were: Class A—Tom Morgan, H. K. Young, T. C. Sheffield, J. Bodevin, Harry A. Baumstark; Class B—T. K. Gilson, W. L. Johnson, H. B. Elwell, R. L. Holland, Al. C. Shepard, R. G. Brown, F. K. Thayer; Class C—William Schutte, H. J. Edmon, C. P. Van Schaack, Jr., W. W. Scott, G. A. Cammerer; Class D—W. R. Nay, G. F. Pauley, F. S. Topper, Stewart Rice, J. W. Painton.

The last tournament in the Chicago Inter-City Tournament will be held at the Birmingham Country Club, Detroit, September 21.

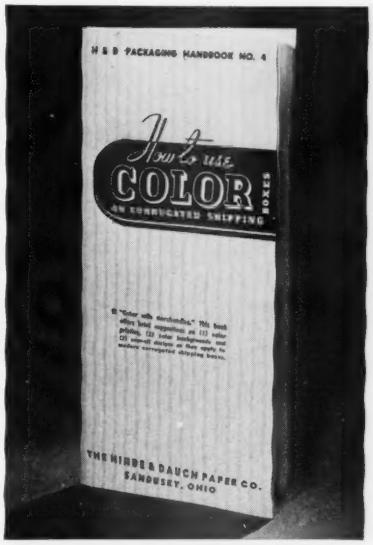
Medicinal Exports Up 30%

The Department of Commerce has announced that exports of medicinal and pharmaceutical preparations from the United States gained almost 30 per cent. in value during the first half of the current year compared to the same period last year and were only 19 per cent below the peak level in the same period of 1929.

The value of the shipments was $8,787,000 according to preliminary statistics, compared to $6,768,000 for the corresponding period last year and $10,804,000 for the first six months of 1929.

Color in Shippers

"How to USE COLOR on Corrugated Shipping Boxes," fourth in a series of Packaging Handbooks published by The Hinde & Dauch Paper Co., Sandusky, Ohio, is printed appropriately in four colors. Copies will be sent free on request.



Financial

Amer. Home Earnings

American Home Products has reported for the six months ended June 30 consolidated net earnings of $1,552,661.27, equivalent to $2.09 each on 741,060 shares. The company has declared a dividend of 20 cents a share on its stock, payable December 1 to stockholders of record August 14.

Abbott Earns 33% More

Abbott Laboratories, North Chicago, Ill. reports a net income of $865,335 for the first six months of this year, comparing with a net income of $677,570 in the same period last year.

For the twelve months ended June 30, 1937, the company reports a net profit of $1,603,041 compared with $1,286,826.74 for the year ended June 30, 1936.

Anchor Cap Earnings Up 50%

Anchor Cap Corp. and subsidiaries reports for the year ended June 30 net profit of $801,513, equal to $1.96 each on 273,698 common shares (excluding 3,000 shares held in the treasury) after dividend requirements on the $6.50 convertible preferred stock. This compares with a net profit of $533,061, or 97 cents a common share, in the year ended June 30, 1936.

For the six months ended June 30 the company reports a net profit of $452,849, equal to $1.17 a common share after preferred dividend requirements, compared with $255,795, or 45 cents a share for the same period last year.

Bristol-Myers Earnings

Bristol-Myers Co. reports earnings for the year ended June 30, 1937, after all charges, including a provision of $63,196.02 for undistributed profits surtaxes, of $2,267,826.89, or $3.30 per share on outstanding stock.

Colgate Profits Multiply

Colgate-Palmolive-Peet Co. reports for the six months ended June 30 net profit of $1,715,606, after deducting a loss of approximately $500,000 flood-damage costs at the Jeffersonville, Ind., plant. This compares with a net profit of $370,198 in the first six months of 1936.

Gallaher Earns Less

Gallaher Drug Company report for year ended June 30: Net profit after surtax, $109,391, compared with a net profit of $128,490 for the year ended June 30, 1936.

I. V. C. Earns $115,045

International Vitamin Corp. reports for the year ended June 30 a net profit of $115,045, equal to 56 cents a share on 204,000 shares. This compares with a net profit of $130,464 or 64 cents a share on 203,000 shares for the year ended June 30, 1936.

Mc. & R. Earnings Up

McKesson & Robbins, Inc., reports for the six months ended June 30 a net profit of $1,750,271, equivalent to 74 cents a share on 1,282,983 shares. In the first six months last year the company earned $1,250,702, or 35 cents a common share.

Net sales in the first six months of 1937 increased 17.63 per cent. to $84,042,715 from $71,448,627 in the six months ended June 30, 1936.

Make a Beautiful Transparent

WAVE SET

•

TAB GUM

FLAKELESS—deposit left on the hair is invisible and remains so.

FAST DRYING and **S-T-R-I-N-G-Y**—no oils or glycerin is needed in **TAB-GUM** lotions, hence drying is fast, develops high degree of stringiness, will not separate or precipitate in the bottle.

NO HARDENING in the bottle when made into concentrates, disperses readily with water to make desired solution.

JELLIES—can be readily shaken into solution and used immediately.
Leaves the hair soft and lustrous!

TAB-GUM No. 116 is a processed Karaya Gum developed to make fine, uniform Wave Sets with minimum effort and minimum trouble. No alkali or glycerin need be used, with all the trouble they bring in exact control.

Just add two parts alcohol to one part **TAB-GUM** *No. 116, add preservative, for the finest concentrate. Easily dispersed in water to make the desired solution.*

Leaves the Hair Soft and Lustrous!

FOUNDED T & B 1856

TAB-GUM No. 116 is a fine white powder. It's new, it gives the perfect wave set; always uniform, always a fine transparent, stringy, flakeless liquid which retains these desirable qualities.

Let us send you a sample of **TAB-GUM** No. 116. Test for yourself how easily a really fine wave set can be made.

THURSTON & BRAIDICH

286 SPRING ST. NEW YORK

Mead Johnson Earns $759,827

Mead Johnson & Co. and subsidiaries reports for the first six months of 1937 net profit of $759,827, excluding loss of unconsolidated subsidiary. Including the company's $23,640 proportion of loss of the American Soya Products Corp., the net profit was $736,187, equal to $4.10 each on 165,000 shares of no-par common stock. Net profit the previous year was $681,599, equal to $3.77 a common share. The company's proportion of loss of American Soya Products Corp. ($29,662) was not included in the income statement for that period.

National Oil Earnings Up

National Oil Products and subsidiaries reports for the six months ended June 30 a net profit of $326,041, equal to $1.93 a share on 169,128 shares of stock, compared with a net profit of $239,072, or $1.41 a share in the same period last year.

The profit for the quarter ended June 30 was $167,836, equal to 99 cents a share and comparing with a net profit of $158,205, or 94 cents a share in the preceding quarter of this year.

Owens Earnings Jump

Owens-Illinois Glass Co. reports for the year ended June 30, 1937 a net profit of $11,856,194, equal to $4.46 a share on 2,661,204 shares of common stock and comparing with $8,776,341, or $6.84 on 1,282,260 shares for the preceding year. The shares were split two for one last spring and plans for expansion were announced.

Peoples Drug Earns $506,865

Peoples Drug Stores, Inc., and subsidiaries reports for the six months ended June 30 a net profit of $506,865, equal to $1.94 on 245,474 no-par shares of common stock. This compares with $532,376, or $1.91 a share earned in the first half of 1936.

Procter & Gamble Earnings Up Sharply

Procter & Gamble reports for the year ended June 30, 1937, a net income of $26,803,339, equal to $4.07 each on 6,325,087 shares of common stock. This compares with $16,138,367, or $2.39 a share in the year ended June 30, 1936.

Pyridium Earns $219,000

Pyridium Corp. of Nepera Park, N. Y., reports for the March quarter net income of $127,166. The net income for the full year of 1936 was $219,240 comparing with the company's net earnings in 1935 of $207,011.

Sharp & Dohme Earns Less

Sharp & Dohme reports for the quarter ended June 30, 1937, net earnings of $162,190, equal to 70 cents a share on cumulative convertible preference stock. This compares with net earnings of $203,822 in the same quarter last year.

Sterling Products Earnings

Sterling Products, Inc., has reported for the six months ended June 30 net earnings of $5,172,680, equal to $3.03 each on 1,706,163 shares. No provision, however, has been made for the surtax on undistributed profits. The company's net earnings in the same six months of 1936 were $5,024,909, equal to $2.92 each on 1,715,656 shares.

The profit for the second quarter of 1937 was $2,425,913, equal to $1.42 a share and comparing with $2,318,263 or $1.35 in the same quarter last year.

Vick Earnings Up

Vick Chemical Company and subdiaries report for year ended June 30: Net profit, $2,953,515 after provision of $4,412 for the Federal surtax on undistributed profits, equivalent to $4.23 a share on 697,480 capital shares exclusive of shares held in treasury. This compares with a net profit of $2,709,334, or $3.87 a share on 700,280 shares, in year ended June 30, 1936. Quarter ended June 30: Net profit, $77,477, equal to 11 cents a share on the stock.

Obituaries

Stuart Abel

Stuart Abel, sales representative for Long Island for Eli Lilly & Co., died of a heart ailment on a golf course August 11. He was fifty years old.

Mrs. Anna Vos Adams

Mrs. Anna Vos Adams, wife of Frank C. Adams, vice-president of the Andrew Jergens Co., the John H. Woodbury Co. and the Jergens-Woodbury Sales Corp., died August 20 at her home in Clifton near Cincinnati. She was sixty years old.

Dan Hinckley Arnold

Dan Hinckley Arnold died at his home Framdan, near Washington, August 16, at the age of forty-nine. He was formerly a member of the firm of F. R. Arnold & Co. importer of perfumes. He retired from active business in 1930.

James Monro Blain

James Monro Blain, superintendent of the Burroughs, Wellcome & Co. plant at Tuckahoe, N. Y., died at Grand Isle, Vt., August 22. Mr. Blain, who was sixty-two years old, was born in Ontario and was graduated from the Toronto College of Pharmacy. He had been connected with Burroughs, Wellcome & Co. for the past twenty-five years.

Dr. Jacob Diner

Dr. Jacob Diner, first dean of the Fordham University School of Pharmacy died at his home in Amityville, L. I., July 25. He was sixty-seven years old and had been ill for a number of years. Dr. Diner was a native of Russia and as a practicing pharmacist in New York he was active in the movement for better development of the professional side of the retail drug business. In 1909 he took up the study of medicine at Fordham and was instrumental in the founding of the School of Pharmacy. He became the first dean of the school and held the position until his retirement in 1932.

Lyman J. Jackson

Lyman J. Jackson died in the Bath Memorial Hospital, Bath, N. Y., on July 30, after a two weeks' illness. Mr. Jackson has been connected with the Frostilla Co. Inc., Elmira, N. Y. for the past eight years, having been sales manager for the past four years. He is survived by his wife and daughter.

Frank E. Layman

Frank E. Layman, vice-president of the Sherka Chemical Co. Inc., Bloomfield, N. J., died at Middleton, Conn., August 13, at the age of fifty-four. Before becoming associated with the Sherka Chemical Co. Inc., Mr. Layman was connected with the Cutler-Hammer Co. and the Bakelite Corp.

Marshall M. McGehee

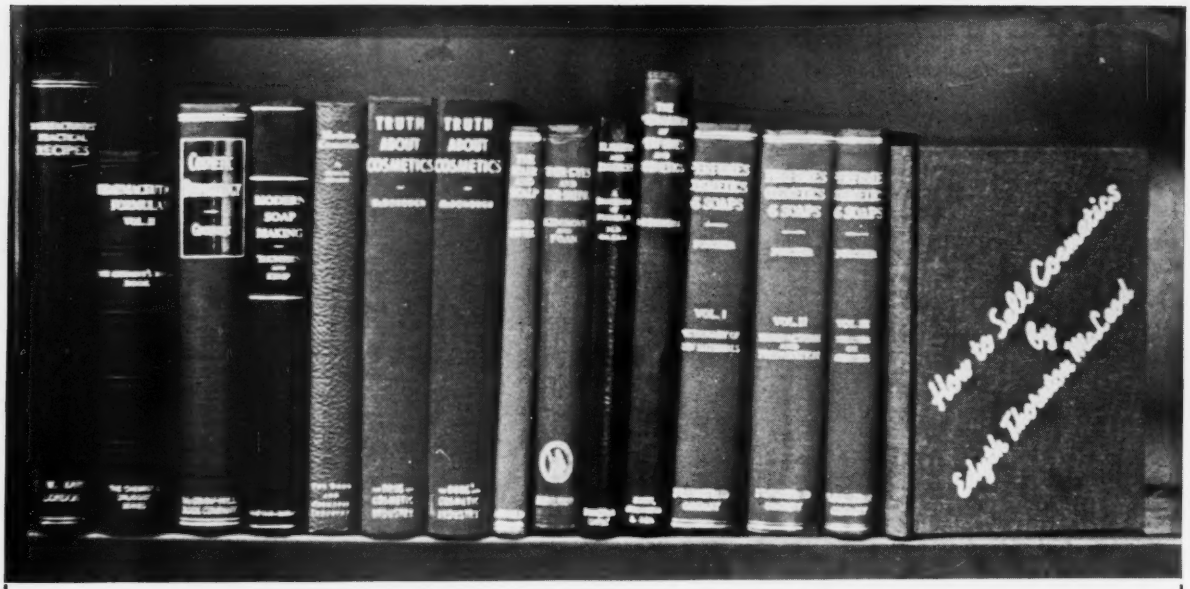
Marshall M. McGehee died at his home in Clarkston, Ga., July 17 at the age of eighty. Mr. McGehee was for twenty years a treavling sales representative for the National Drug Co., Philadelphia.

Dr. Vernon L. Kellogg

Dr. Vernon Lyman Kellogg, first permanent secretary of the National Research Council, died in Hartford, Conn., August 8 at the age of sixty-nine. Dr. Kellogg was born in Emporia, Kansas and received his B. A. and M. S. degrees from the University of Kansas; D. S. from Oberlin College, and D. L. from the University of California. He was made secretary of the National Research Council in 1919 and held the position until illness forced him to retire in 1931. He served as chief of the first Hoover Food Mission to Poland. He is survived by his wife and a duaghter, Charlotte Jean Kellogg.

Mrs. Ella Francis Phillips

Mrs. Ella Francis Phillips, widow of Dr. Charles E. H. Phillips, one of the former owners of the Charles H. Phillips Chemical Co., died at her home in Glenbrook, near Stamford July 26. She was eighty-three years old.



The Cosmetic Bookshelf

TRUTH ABOUT COSMETICS—McDonough, 311 pp. $5.00

A searching and critical analysis of cosmetics and cosmetic action. A discussion of every type of cosmetic, their chemical character, their use and established cosmetic value.

HOW TO SELL COSMETICS—McLeod, 104 pp. $2.00

Chapters cover the sales of every kind of cosmetic. This book is a compilation in easily read form of a notably successful sales course.

MODERN COSMETICS — Chilson Second Edition in process of publication.

The first book to be published in America on the manufacture and formulation of cosmetics is now in its Second Edition. New features: Completely revised and tested formulas, a complete section on manufacturing processes, plant layout, machinery and equipment.

COSMETIC DERMATOLOGY — Goodman, 591 pp. $6.50

Dictionary of ingredients, discussion of anatomic, physiologic, and pharmacologic bases of cosmetic application; "shelf-tested" formulary; and appendices on odor and color in cosmetics.

PERFUMES, COSMETICS & SOAPS—Poucher, Second Edition

Vol. 1—Dictionary of cosmetic raw materials, 439 pp. $8.00

Vol. 2—Perfume formulary and procedure of manufacture 426 pp. $8.00
Vol. 3 — Cosmetic formulary and procedure of manufacture, 228 pp. $7.00

PREPARATION OF PERFUMES & COSMETICS — Durvelle, 419 pp. $10.00

This well-known work contains much valuable information on cosmetic raw materials and a complete formulary on the manufacture of perfumed products.

THE HAIR AND THE SCALP—Savill, 288 pp. $5.00

Discusses in detail the structure and physiology of hair, and the probable causes and treatments of common conditions such as dandruff, excessive oiliness, etc.

HAIR DYES AND HAIR DYEING —Redgrove and Foan, 194 pp. $3.00

There is little literature on hair-dyeing. In the making of this book, a chemist and a practical hairdresser have collaborated to produce the most complete treatise on the subject.

FLAVORSANDESSENCES—Gazan, 115 pp. $10.00

This new-type formula book gives you brand-new formulas, most of which have never before been published. Every formula has been carefully tested. Every product is highly concentrated, very soluble, and may be kept for several years without change or deterioration.

MODERN SOAP MAKING — Thomssen and Kemp, 550 pp. $7.50

Designed as a practical volume for the practical soap-maker. Its compilation is based on twenty years of actual experience in the soap plant by the authors. The emphasis is all on the practical handling and refining of raw materials, kettle practice, and other operations in the modern soap factory.

MANUFACTURERS' PRACTICAL RECIPES — Jameson, 579 pp. $10.00

Although a general formula book, this volume contains many worthwhile recipes for perfumes, and cosmetics.

PHARMACEUTICAL FORMULAS Vol. 2—982 pp. $8.00

The title of Vol. 2 is somewhat misleading as this work contains 415 pages of formulas on Toilet Preparations. This work is authoritive and can be recommended.

THE DRUG AND COSMETIC INDUSTRY

101 WEST 31st STREET ***Book Department*** **NEW YORK CITY**

INDUSTRY'S BOOKS

Any book reviewed in this section can be purchased direct from THE DRUG AND COSMETIC INDUSTRY at regular publisher's price.

Industrial Cold Adhesives, by Dulac and Rosenbaum, 192 pp., Lipincott, Philadelphia, $3.50.

For the first time a book of tested formulas has been written by a manufacturer for other manufacturers, revealing methods of producing better cold adhesives at lower costs. The work considers the problems of the maker and user from the main aspects of raw materials, plant, labor, as well as other costs.

Industrial Cold Adhesives is the 1937 English Edition of Roger Dulac's "Colles a Froid Industrielles" to which the leading British cold adhesive manufacturer, Dr. W. S. Macfarlane (Imperial Chemical Industries, Ltd.) has added a chapter on Sodium Silicate Adhesives.

American manufacturers are privileged to use any of the formulas, all of which have been worked out by M. Dulac, and are known as "Roger Dulac Processes." You will find this permission granted by co-author, Joseph L. Rosenbaum in a signed Foreword in the book.

Business Under The New Price Laws, by Zorn and Feldman, 463 pp. Prentice-Hall, New York, $5.00.

The purpose of this work is to clear away the confusion that now exists under the Robinson-Patman Act and related acts. In this respect the book is timely for the business man and his lawyer as there is undoubtedly considerable confusion in industry regarding the recent price-fixing laws. It points out what the business man can do and what he cannot do under the drastic provisions of these laws. This book, for the first time, formulates in a compact way the information needed to formulate a safe selling policy. This new book concerns itself with the state fair-trade laws, as well as with the price-fixing laws passed by Congress. In brief, it covers every aspect of its subject, from quantity discounts to loss-limitation legislation. The authors of this book are both well-known attorneys. Burton A. Zorn was formerly Chief of Trade Practice, Compliance Division, and Counsel for the NRA in New York State. George J. Feldman was, until recently, an attorney with the Federal Trade Commission.

Medical Formulary, by E. Quin Thornton, M. D., 14th edition, 363 pages, Lea & Febiger, Philadelphia, $2.75.

This work, now in its 14th edition since first published nearly forty years ago, is sufficient evidence of its usefulness. This edition conforms to the Pharmacopoeia XI. Twenty-eight modern drugs, preparations and chemicals have been added to the list of official substances. Many other modifications in methods of manufacture, assay processes, tests for purity and strength bearing upon improved stability and quality, especially for biological products, have been carefully considered and adopted. In order to conform with these changes this edition of the Formulary has been practically rewritten.

Quantitative Organic Microanalysis, by H. Roth, Third English Edition translated by E. B. Daw, 271 pages, P. Blakiston's Son & Co., Philadelphia, $5.00.

This important work is devoted to Pregl's remarkable methods of organic analysis based on micro quantities of material. Descriptions give full details of the most recent methods for the quantitative determination of various elements, groups, and structures as well as more important physical constants. The translation, although occasionally clumsy, is clear and readable.

Arithmetic of Pharmacy, by A. B. Stevens, Sixth Edition revised and enlarged by C. H. Stocking and J. L. Powers, 173 pages, D. Van Nostrand Co., New York, $2.00.

In preparing this edition, the revisers have followed the same general plan that has been used by the author in previous editions. The section on percentage solutions has been very largely rewritten to comply with the monograph on this subject which appears in U.S.P. XI. Sections on commercial discount and profit and loss have been added. Tables of atomic and molecular weights have been corrected to date.

LOTS of things can happen when you combine different cosmetic compounds with chemically complex aromatics. And what *does* happen is not always aesthetically appealing to the purchaser! That is why FRITZSCHE'S CUSTOM-MADE PERFUMES—perfumes made in accordance with the manufacturer's specifications but adjusted chemically to the composition of his product—are the safest, least costly and best selling in the long run.

Our chemists literally "fit the perfume to the product". They subject all ingredients involved to the most exhaustive tests. Discoloration, oxidation, crystallization, precipitation or any other adverse tendency is detected and corrected before a single recommendation is made. Thus, the manufacturer who chooses a FRITZSCHE Custom-Made Perfume can rest assured that as long as his product lasts it will still have the same fine, fresh fragrance as when it was made.

Better let FRITZSCHE specialists fit their perfumes to *your* products . . . at least, you will incur no obligation by consulting them.

● *"FRAGRANCE CREATES SALES APPEAL"*

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ESSENTIAL OILS

Your basic materials should be of absolute purity and dependability. These essential oils are the finest that modern methods and scientific skill can produce.

AROMATIC CHEMICALS

The quality and purity of these materials are their best assurance of economy. This group includes a complete selection of the finest aromatics.

AMYL and ETHYL ETHERS

Specially prepared for extract, food and pharmaceutical use, made in our own factory and guaranteed to be of highest possible purity.

SYNTHETIC FLOWER SPECIALTIES

Natural flower oils combined with carefully selected aromatics to produce floral effects of consummate fidelity and fragrance.

ABSOLUTES

These are the purest and most complete flower extractions available. They are produced by volatile solvent extraction at our own factory in Seillans, France, and sold direct to the manufacturer, thus eliminating the middleman's profit.

RESINOIDS

These extracted Gums, Resins, Balsams and Drugs represent a superlative means of fixation. They contribute their characteristic perfume note as well. Each possesses the full aromatic content and fixation properties of its respective crude material.

ANIMAL FIXATIVES

Recent introduction of our four Artificial Animal Scents —Musk, Civet, Castorem and Ambergris—marked the culmination of years of exhaustive research and experimentation. All are remarkably effective fixatives and closely duplicate the principal characteristics of the genuine products . . . but at a fractional cost. Send for circular.

DEODORIZING COMPOUNDS

For use in technical products such as para blocks, naphthalene, cleansers, waxes, polishes, solvents, diluents, etc. Low priced but highly effective. Write for particulars regarding Neutroleum, Javollal, Methalate "C", Safrella and others.

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Try Oxidex—an effective anti-oxidant for use in soaps and for technical work. Assures complete preservation of animal and vegetable oils and fats.

ALSO

SPECIAL PERFUME COMPOUNDS for TOILET WATERS, LOTIONS, POWDERS, CREAMS, HAIR PREPARATIONS, BATH SALTS, SOAPS, ETC.

and

FLAVORING OILS, OLEORESINS, ESSENCES and SPECIALTIES for PHARMACEUTICAL PREPARATIONS, DENTAL PASTES and POWDERS, MOUTH WASHES, PREPARED FOODS, DRINKS, ETC.

Laboratory Practise of Organic Chemistry, by G. Ross Robertson, 326 pages, The Macmillan Company, New York, $2.25.

The main feature of this volume is an unusually extensive but informal treatment of the principles underlying laboratory manipulations in organic chemistry included in the first part. The second part deals with synthetic experiments and a few examples of elementary qualitative and quantitative analysis. Essential explanations of principles are thus kept distinct from directions for experiments. Cross references serve to unify both parts of the book.

Handbook of Chemistry, compiled and edited by N. A. Lange, 1501 pages, mathematical appendix 249 pages, index 30 pages, Handbook Publishers, Inc., Sandusky, O., Second Edition, $6.00.

In addition to the revision of standing material in the first edition of this valuable handbook, new tables have been added which increase the size of the volume by 237 pages. The tables in the first edition were selected with care, and many of them are compilations of standard data not subject to change, so that none of these has been eliminated, although several have been completely rewritten. Added material includes additional information on the identification of compounds as well as several new tables of interest to organic chemists. The format of the volume has been altered by a slight increase in the width of the page to make for greater accessibility of subject matter along the inside margins.

Man In A Chemical World, by A. Oressy Morrison, 292 pp. illustrated, Charles Scribner's Sons, New York, price $3.00.

The purpose of this book is to acquaint the general public with the importance of the chemical industry to America and the great benefits which chemistry has brought to peoples throughout the world. It is simply written so that any intelligent person can easily comprehend and enjoy reading it. Chemistry has undoubtedly contributed materially to civilization and progress and herewith is set forth the wonders of its working. The book is beautifully printed and illustrated.

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ANOTHER UNSOLICITED TESTIMONIAL

for S&S packaging equipment

How "Allied" Control Helps You To Increase Profits On Your Toiletries

For over 50 years Allied Products has assisted prominent distributors of toiletries and cosmetics in the manufacture of their merchandise. Our clients enjoy increased profits as a direct result of this working arrangement. Here briefly are the reasons why:

CONTROLLED PRODUCTION: From start to finish, from raw materials to finished goods every operation in the Allied plant is under rigid control. This constant vigilance eliminates guesswork...avoids waste...saves you money.

MAXIMUM TURNOVER: Each day Allied clients receive a report of merchandise on hand or in work. They receive ample warning of re-order dates. In addition, our modern facilities make possible the quick processing of finished goods. This means a minimum inventory and a maximum turnover—both *vital* to your profits.

KNOWN COSTS: Allied clients know in advance exactly what their costs will be. Their price schedules are based on absolute certainty, not on optimistic guesswork.

REDUCED OVERHEAD: Allied clients do not have money tied up in plants or manufacturing equipment. They use their capital to expand distribution, to increase consumer good-will through advertising.

The Allied plant is big. The Allied staff of specialists is highly skilled. The equipment is the last word in efficiency. And behind all this is 51 years of experience which has welded personnel and equipment into a smooth working whole.

You may find, as others have, that the unit cost of our quotation is well under your present cost. In any event it's easy to find out. Address inquiries to Mr. A. D. Henderson, Allied Products, Inc., 114 Fifth Ave., New York (WAtkins 9-6070). They will receive prompt attention.

BATH SALTS • CREAMS • TOOTHPASTES • DEODORANTS • DUSTING POWDERS • FACE POWDERS
HAIR AND SCALP PREPARATIONS • LOTIONS • MANICURE PREPARATIONS • PERFUMES
SACHETS • SHAVING PREPARATIONS • SKIN TONICS • TALCUM POWDERS • TOILET WATERS

ALLIED PRODUCTS, INC. • 114 FIFTH AVE., NEW YORK
PLANT AND LABORATORIES: SUFFERN, NEW YORK

WHEN companies like Allied Products Inc., take double page advertising space, like the reproduction above, to point out the efficiency and economy of Stokes & Smith Packaging Equipment, you, too, might profit by becoming familiar with Stokes & Smith equipment.

The machine illustrated is the S & S Rotary Powder Filler, which is used to give a clean, accurate, speedy fill for powder drums, or cans. Some users obtain speeds up to 50 packages per minute.

Stokes & Smith Company also manufacture a complete line of Filling, Packaging and Wrapping Machinery, both semi and fully automatic. Write for complete information.

STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

4912 Summerdale Ave., Philadelphia, U. S. A.

PRODUCTION FORUM

BY Francis Chilson
PRODUCTION ENGINEER

MANTON GAULIN COLLOID MILL

The Manton Gaulin Mfg. Co., Inc. of Everett, Mass. invites you to write for data on their new, two-stage colloid mill which was mentioned in this department some time ago. Having had an opportunity to look over this mill we can tell you more about it. This machine has a higher rotor speed than is common to colloid mills. It is so designed that both sides of the rotor are used, and this double-faced rotor makes it possible to effect a two-stage reduction in the material being treated. The incoming material passes over one surface of the rotor, receiving the first stage treatment, during which it is reduced, so that final treatment on the opposite face of the rotor, reduces the particle size to whatever degree of dispersion may be desired. The machine is water-jacketed which reduces the heat developed by the material under treatment. The construction of this machine makes it extremely useful in the treatment of emulsions, creams, ointments and similar products. The Manton Gaulin Co. maintains a testing laboratory at Everett, Mass. and the firm has a number of demonstration units which it will be glad to send to established firms. This two-stage colloid mill is made in a multiplicity of sizes from a very small laboratory unit upward. This company, you will remember, also manufactures the famous two-stage Manton Gaulin Homogenizer. This outfit knows a lot about the treatment of emulsions and the next time you have an emulsifying problem they will be glad to help you with it.

RUMORS

We have been hearing for some time that the American Machine & Foundry Co. is planning to bring out a machine for wrapping bottles in transparent, cellulose paper. We haven't any idea about the manner in which the machine operates but when we get the dope we will pass it on if it seems applicable to our trade.

We've also heard that Arthur Colton Co. of Detroit are bringing out a new rotary tablet press which is said to be the last word in this type of equipment. If they do as good a job in redesigning their tablet presses as they did in redesigning their small, automatic tube filler, the new presses will be sweethearts. If you are going to be in the market soon for tube filling equipment you will do well to have a look at the new Colton Automatics.

CALIBRATING

As mentioned in another part of the department, you should calibrate not only gages and other instruments but safety valves as well. Corrosion effects safety valves and steadily increases the amount of pressure required to set them off. The other day we came across a safety valve so badly corroded that it was only by the grace of God that the kettle to which it was attached did not blow up because it would have taken less pressure to blow the kettle up than it would have to cause the safety valve to pop.

AIR CONDITIONING

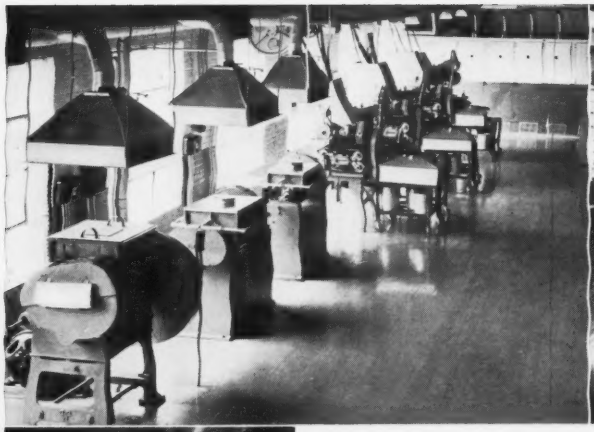
If you have a lot of exhaust steam in the summer time you can use it for air conditioning purposes and also for process cooling, by using it as a refrigerant in a steam jet ejector, such as that made by the American Blower Corp. or the Westinghouse Electric and Manufacturing Company. Steam refrigeration is finding a steadily widening application for water and process cooling and general air conditioning.

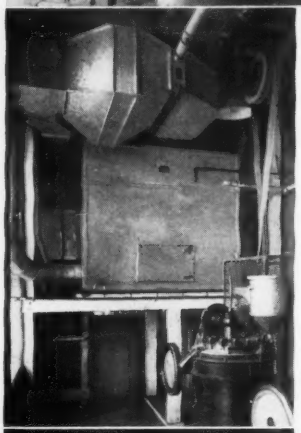
NUMBERING EQUIPMENT

Most accounting departments are, for tax reasons, setting up detailed equipment records in which the cost and life history of each machine is kept. Sometimes these records are so detailed that even the motors are recorded separately. It is expensive to use numbered brass tags for numbering equipment and if the numbers are painted on, there is always a danger that they will be rubbed or worn off. For the purpose of cutting such numbers directly into metal, James H. Mathews & Co., Forbes St., Pittsburgh, Pa., are offering a numbering hammer with which the job can be done with one wallop. This tool consists of a heavy hammer with a recessed face in which the type is set. The type is held in place by means of a locking pin. To change the type all you have to do is to press this locking pin and pull the type out, a procedure that takes only a couple of seconds. One blow with this numbers the machine permanently. Obviously it is a good deal faster than using one number at a time with a hand hammer.

LABORATORY PULVERIZER

The Braun Corporation, Los Angeles, California, is offering a small pulverizer, very compactly and symmetrically designed which can be used for laboratory or small scale grinding. Particles averaging





These installations were made because

LECTRODRYER

DRIES AIR AND GASES

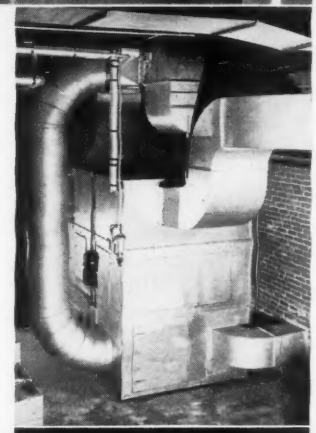
. . . with low first cost, simplicity of mechanism, lower operating cost.

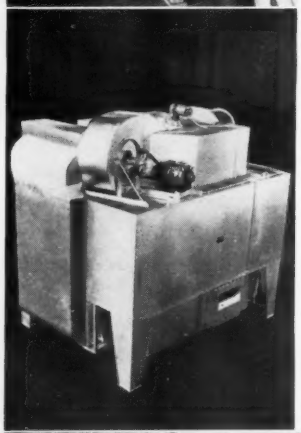
Many industries badly need just this.

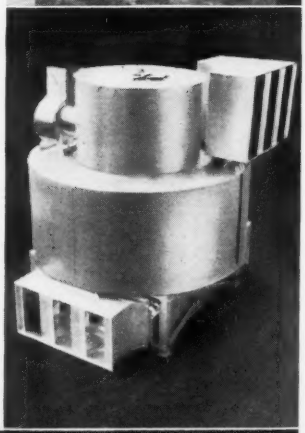
We have a new bulletin describing some of the typical uses of this equipment and would like to send you your copy.

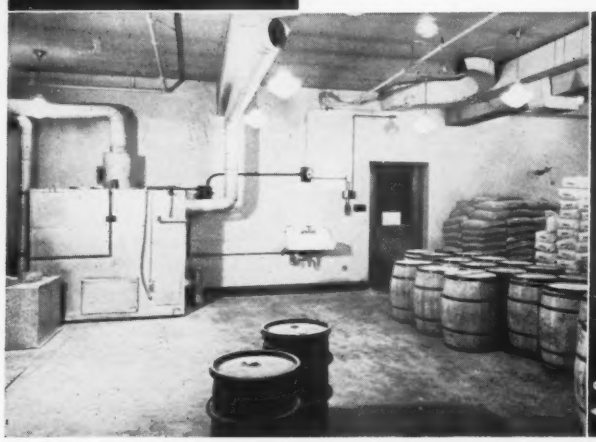
Ask for bulletin BC.

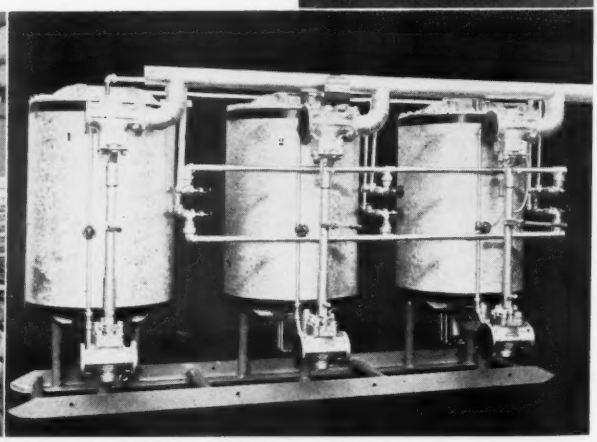
PITTSBURGH LECTRODRYER CORP.
Thirty-second St. & A.V.R.R.
PITTSBURGH, PENNA.











one quarter inch diameter can be reduced to 100 mesh at a rate of 1 pound per minute. This is based on quartz ore. Softer materials can be reduced at a faster rate.

PAINT

The Wilbert & Williams Mfg. Co. of Boston, Mass. are pushing a paint called Bondlite which sounds almost impossible. It is claimed that this paint will cover old calcimine; hide old water stains; stick to damp surfaces without blistering; cover wood, metal, brick, concrete or plaster. In addition it will size and finish in one coat and will dry quickly without ever getting yellow. If it accomplished half as much as this it would still be a good paint.

EMBOSSING MACHINE

If any of your products are put out in plug top cans you can get a small automatic machine which will emboss laboratory control numbers on the lids at a rate of 4,000 per hour. The machine is adjustable for a range of sizes between 2¾ and 7⅛ inches and it can be set to print as well as to emboss. We are informed that odd shaped lids can be handled by means of special attachments.

BAG FILLING MACHINE

The Syntron Company, Homer City, Pa., is increasing its line of vibrating type filling equipment. The most recent addition to the line is a bag filler for large paper and burlap bags. This machine not only settles the material in the bag but it also weighs it exactly and is constructed to prevent dust.

LIQUID HANDLING

Very frequently we are asked to supply the name of a manufacturer of small liquid measuring pumps which can be attached to drums of oil and other liquids. You should renew your acquaintance with S. F. Bowser & Co., Fort Wayne, Ind. This company makes a complete line of hand and motor operated pumps as well as equipment for metering, filtering, distilling, storing and dispensing liquids. It's an old company and they have had a lot of experience in this field.

TRAVELING BLOWER

The American Monorail Co., Cleveland, Ohio, developed a traveling monorail blower for blowing lint and dust out of textile machines. In looking this unit over it occurred to us it would be a very useful tool to use in connection with cream cooling tables. The unit is mounted on a small monorail tractor operated by a quarter horsepower motor and it travels at a speed of 150 ft. per minute. The fan is designed to blow straight downward, so that if it were mounted a cream-cooling belt and arranged to travel up and down in a direction opposite to the movement of the jars, it would be a lot more effective in keeping the air stirred up than a battery of fixed-direction fans. Such a unit could also be used in a dry room to keep the air stirred up.

WATER FILTER

R. P. Adams Co., of Buffalo, N. Y. offer one of the most compactly designed porous stone water filters that we've seen. Capacities range from one to twenty-five gallons per minute, and a unit containing 168 sq. ft. of filtering surface is only 48" in diameter. The porcelain filter tubes in these units can be cleaned by backwashing.

PRODUCTION RECORDER

National Acme Co., Cleveland, O., have a timing and recording device which they call a Chronolog and which, when attached to a specific machine, will record the amount produced by the machine, the number of times the machine was shut down, together with the time lost by each shut down, and it can be arranged to record the number of visits made by a supervisor to the machine.

It's getting so that machines will be available soon to record the number of times a production man makes a pass at his stenographer. Such a machine may yet come into more general use than the present stage of mechanization in the trade warrants. It would certainly be very useful for temporary service in breaking in new packaging machinery, when it is necessary to keep tabs on the number of shut downs so that you can find out whether to pass the buck to the machinery maker, the glass maker, the label or the carton maker. Another use would be in connection with tablet presses. The one way to get production out of a tablet department is to keep the presses going without interruption. The same is true of any packaging department. Workers are only too glad to shut down equipment every chance they get. But when you get the production report at the end of the day and discover that the machines produced only forty or fifty per cent. of rated capacity, you also get a heterogeneous collection of alibis to explain the difference. Since there are a number of variables in the operation of tablet presses and also in operating packaging equipment, the best way to keep shut downs at a minimum is to rate the department head (and give him a bonus) based on the percentage of actual production to ideal production, which is the output of the equipment when operated at rated capacity for a full day without shut downs. This helps to cut down alibis.

CALIBRATING GAGES

How often do you check your gages,—pressure, vacuum, steam, etc.? This problem was brought forcibly to mind the other day when we examined a dryer installation that was causing trouble. The material being dried had to be dried at a very high vacuum. But in spite of the high vacuum that was apparently being maintained, the material was being discolored through excessive heat. We were puzzled when we looked the situation over because the gage showed 29". But when we took a look at the pump that was being used, we knew something was wrong with the gage because that type of pump could never in God's world get above 27" even under ideal operating conditions. We then learned with considerable amusement that the gage had not been checked in the fifteen years that the dryer had been installed. When the gage was removed it turned out to be no good and a new one showed that the unit was operating at 22" and not 29".

GAGES

Glowgau and Co., 538 S. Clark St., Chicago, offer you a variety of gages, stop watches for time steady work and time clocks for process work.

SEND FOR COPY

Nash Engineering Co., S. Norwalk, Conn., have issued a bulletin on a great variety of pumps, including vacuum pumps, air compressors, etc.

Breur Electric Mfg. Co., 846 Black Hawk St., Chicago, Ill., have issued a bulletin on Industrial Vacuum Cleaners, which illustrates the great variety of uses to which these handy machines are put. They are used for everything from cleaning walls and floors to cleaning boiler flues.

Buffalo Pump Co., Inc., Buffalo, N. Y., have issued a bulletin on their extensive line of pumps.

The Deming Co., Salem, Ohio, have issued a bulletin giving a lot of dope on deep-well pumps.

Detroit Steel Products Co., Detroit, Mich., have issued a catalog on Fenestra Industrial Steel Doors covering about every kind of inside and outside door you have ever heard of.

Graham Mfg., Co., Buffalo, N. Y., invite you to write for a series of bulletins on their line of two stage air ejectors and steam operated water coolers. This equipment is extremely compact and well designed.

THE LOUISVILLE DRYER

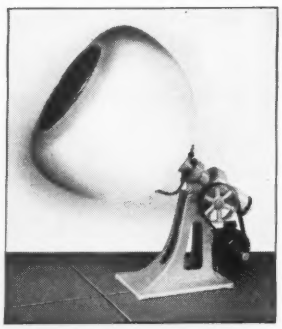
The Louisville Drying Machine Co., of Louisville, Ken., are famous not only because of a well designed line of drying equipment but also because they are the publishers of the L.D.M. Bulletin, which contains a great deal of information that interests production men. You should write for this bulletin because it will help you in your work. Among the "Production Items" culled from the July issue are the following:—

The wind was blowing very violently on a street corner and a young lady's dress was blown up around her neck. When a

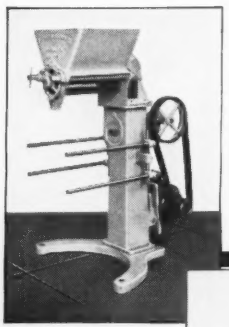
for EFFERVESCING Tablets

Stokes offers Complete Equipment and Laboratory Service . . .

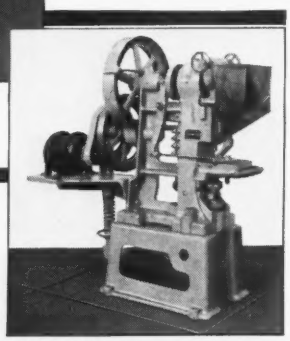
- FUSING PANS
- OSCILLATING GRANULATORS
- TABLET MACHINES
- MIXERS
- DRYERS



FUSING PANS — for mixing and fusing effervescing granulations.



OSCILLATING GRANULATORS — Rugged, for making uniform granulations from fused formula.



TABLET MACHINES — Supply necessary controlled high pressure, conveniently adjusted.

If you are thinking of manufacturing effervescing tablets — take these three steps to economy. For you will save valuable time and materials.

Avail yourself of the confidential advisory service and special manufacturing technique which Stokes is equipped to offer you in the production of effervescing tablets.

Let the Stokes laboratory prepare samples which their equipment and methods are guaranteed to duplicate in production. If you like — see a laboratory demonstration.

Then select Stokes equipment designed to secure these guaranteed results from the start.

F. J. STOKES MACHINE COMPANY

5932 Tabor Road Olney P. O. Philadelphia, Pa.

F. J. Stokes PHARMACEUTICAL EQUIPMENT FJS Est. 1895

man standing near began to laugh, she irately said: "I see you are no gentleman."

"No, and I see you are not, either," was the reply.

* * *

Two flappers went for a tramp in the woods: the tramp escaped.

* * *

Pullman Conductor: "Boy, what's the idea of the red lantern on that berth?"

Overzealous Porter: "Look here, boss. Here is rule thirteen, it says—"always hang a red lantern when the rear of the sleeper is exposed."

* * *

Mary had a little swing,
It isn't hard to find,
And everywhere that Mary goes
The swing is just behind.

* * *

He: "I'm coming in. How can I get this door open?"

She: "The key is under the mat, but please don't come in."

* * *

"Did you weah the flowers Ah sent?"

"Didn't wear nothin' else but, Black Boy."

"Mah Goodness! Weah did you pin 'em?"

* * *

Lady: "Don't you think that horseback riding gives one a headache?"

Instructor: "No lady, just the reverse."

* * *

Dear Mr. Palmolive:

I bought a tube of your shaving cream. It says no mug required. What shall I shave?"

Yours truly,
Oscar Zilch.

* * *

"I am going to buy you a $10 brassiere for your birthday. What size do you wear?"

"Never mind; give me the $10 because I'm flat busted."

* * *

"How did you come out at the dog race? Did your dog win?"

"No, he was left at the post."

* * *

"Do you think a girl should learn about life before twenty?"

"No, that's too large a crowd."

* * *

Young wife, sadly: "He never used to snore before we were married."

PROCESS CONTROL

"*Stabilog Process Control in Industry*," a new 32-page, illustrated booklet published by The Foxboro Co., Foxboro, Mass., describes a unique system of automatic control of temperature, pressure, level and flow in continuous processes, which takes into consideration the rate of change of the condition being controlled. Explanatory notes demonstrate the characteristic features of Stabilog Controllers, such as its automatic reset mechanism which allows the instrument to balance out at the control point with the valve in any position demanded by the process.

An interesting discussion on throttling control action is given, followed by a comparison of control systems. In addition, the bulletin contains sections discussing the Stabilog system of (1) Temperature Control; (2) Potentiometer Control; (3) Pressure Control; (4) Level Control; (5) Flow Control; (6) Ratio Flow Control. In addition, there is a description of Stabilset Control and Stabilflo Valves.

Copies of the new bulletin, No. 175-1, may be obtained from The Foxboro Company, Foxboro, Mass.

NEW ELECTRIC FILLER FOR AMPOULES OR PERFUME

Appearing to be an unusual and outstanding electric filling machine for ampoules and perfume is that being introduced by Perfektum Products Co., of New York. The machine is a table or bench model.

This electric filler's capacity ranges from 0.05 cc. to 10.95 cc. and is adjustable

to an accuracy of 0.05 cc. Its capacity is said to be 16 a minute or about 1,000 an hour.

The product to be filled is carried into the machine through a feed line by vacuum.

The knurled dial on top is the adjustment for hundreths of a cc., and the upper dial on the front of machine is the even numbered cc. adjustment.

The control of the flow of products of various viscosities is also possible.

All parts with which the material comes in contact are Monel metal or stainless steel. Absolutely no dripping or loss is claimed.

BORAX

Borax is still the most common emulsifying agent in cold and cleansing creams. It is also occasionally used as the alkali in vanishing creams, though more rarely.

Stearic acid	12.5
Sodium carbonate	1.0
Borax	6.0
Glycerin	5.0
Perfume	0.5
Water	75.0

A boiling solution of the borax, soda and glycerin in the water is prepared and pour into this the melted stearic acid, with vigorous stirring. Stir occasionally while cooling and incorporate the perfume when the mixture is cold.

Beeswax	10.0
Mineral oil	57.0
Ceresin	2.0
Petrolatum	8.0
Borax	2.5
Perfume	0.5
Water	20.0

Melt the oil and waxes and add the borax dissolved in water at the same temperature (80° C.). Mix until almost cold and then add perfume.

Owing to its mildly alkaline character, borax is extensively used in hair preparations, especially in permanent wave solutions. It is also utilized in dry shampoo powders.

Coconut oil soap powder	30
Sodium carbonate, monohydrate	45
Borax	25

In astringent lotions, especially of the inexpensive nonalcoholic type, frequent use is made of borax and alum as active ingredients. Borax is also useful in mouthwashes and finds some use in deodorants.

Borax is virtually indispensable in bath preparations, being a milder alkali than sodium carbonate. It does not dry the skin, but its solubility is not always great enough.

Borax	5
Sodium bicarbonate	20
Perfume compound	5
Toilet alcohol	20
Water	50

Dissolve the salts in water, the perfume in the alcohol, and mix the two solutions. Allow to stand at a low temperature and filter. *G. S. Collingridge, Man. Perf.*

EFFERVESCENT PINE-NEEDLE BATH TABLETS

For the preparation of effervescent pine-needle bath tablets, use a mixture of sodium bicarbonate 300 g., technical sodium bisulfate 275 g., and silver fir oil 12 g. Add to this mixture enough fluorescein to produce a yellow color. Press into tablets 6 cm. in diameter and 3 mm. thick and wrap in tin foil. For small bubbles of gas add about 20% of rice or other starch.

H. Schwarz suggests the following formulas: anhydrous citric acid 15 g., sodium bicarbonate 25 g., sodium chloride 60 g. Citric acid 30 g., sodium bicarbonate 48 g., salt 22 g. Both preparations are colored with fluorescein and perfumed with pine-needle oil or bornyl acetate.

Still another formula is rock salt 8 kg., natural pine-needle extract 1800 g., pine-needle oil 200 g., fluorescein 10 g. This is mixed with 2500 g. of citric acid and 4200 g. of sodium bicarbonate.

COMPLETE DISPERSION — GREATER SPEED

Melting — Milling — Mixing — Emulsifying in One Operation

Used by Colgate; Norwich Pharmacal; Mentholatum; Allied Products; Lever Brothers and many other drug and cosmetic manufacturers because of the unusual time, labor and equipment savings it effects.

ABBÉ-LENART MIXER

(PATENTED)

● Here's one mixer that can be used not only for liquids but for ointments, creams, soaps and other semi-solid products. It eliminates the need for separate equipment for milling powders or other operations before mixing. There's only one operation from start to the finished product.

Time Savings — 50 to 80%.

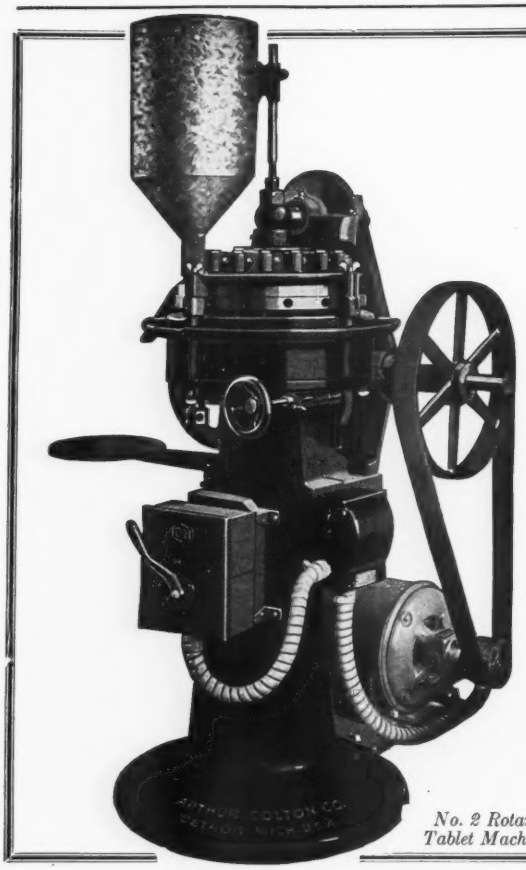
● The Abbé-Lenart Mixer combines a grinding and dispersing action which renders a uniformly fine and homogeneous product regardless of its constituents or viscosity. It can be operated under pressure or vacuum and can be built of any metal.

● Capacities—from 1 qt laboratory size to 330 gallons and larger, if desired.

Write for full details

ABBÉ ENGINEERING CO.

56 Church St. (COrtlandt 7-1115) **New York, N. Y.**



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

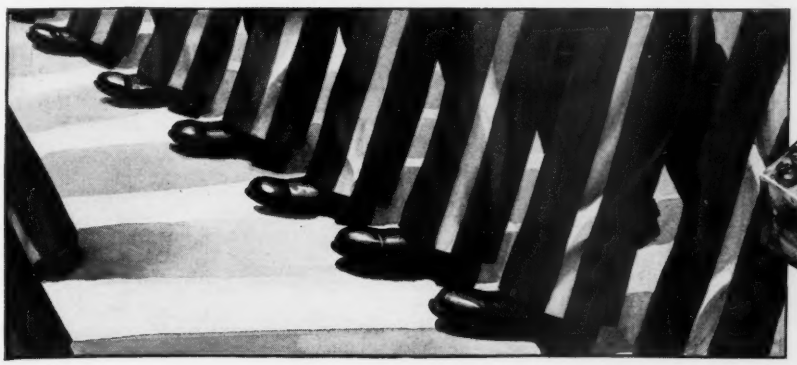
Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.

Detroit, Michigan

Own a wrapping machine that KEEPS STEP with NEW IDEAS



TODAY, new packaging ideas are being developed more rapidly than ever before . . . We design our wrapping machines with this fact in mind —so that the user can, at any time, take advantage of new trends without the heavy expense of buying new machines.

Suppose you want to change your package size, or introduce several new sizes? Or suppose you want to wrap 2 or 3 packages in a "special offer" wrapping . . . You can do any of these things with one of our machines, because it is adjustable to a wide range of sizes.

A new type of package may call for an entirely new type of wrapping material . . . Our new machines can readily be adapted to any of the modern materials—printed paper, foil, glassine, cellulose, waxed paper, etc.

Many of these materials are used in roll form. If the material is printed, our machines can be equipped with Electric Eye registration to locate the printing correctly on the package.

In most cases the same machine that will wrap the regular type carton, will also wrap an open tray, displaying the goods through a transparent wrapper.

Coupons or leaflets can be inserted in the wrapping, or special printed bands applied, by simple additions to the machine.

Such extreme versatility is not only an aid to sales, but it is your guarantee against early obsolescence of the machine itself.

Consult our nearest office or write for information on our modern equipment suited to your industry.

PACKAGE MACHINERY COMPANY
Springfield, Mass.

NEW YORK CHICAGO CLEVELAND LOS ANGELES
MEXICO, D. F., Apartado 2303
Melbourne, Australia: Baker Perkins, Pty., Ltd.
Peterborough, England: Baker Perkins, Ltd.

PACKAGE MACHINERY COMPANY
Over a Quarter Billion Packages per day are wrapped on our Machines

DAY Pony Mixer

(Gearless Type)

Light and Heavy Pastes, Ointments, Vanishing Creams, Tooth Pastes, etc.

The Day Pony Mixer is simple in design and sturdy in construction. It is ideal for mixing liquids, semi-liquids, light and heavy pastes, soaps, liniments, cold creams medicated ointments, tooth pastes, shaving creams, etc.

An extremely speedy and positive mixing action is employed. The can or tank is set on a pan gear which revolves in the opposite direction from the agitator. A thorough incorporation of all materials is assured no matter how small a portion.

The Day Pony Mixer, Gearless Type, Motor drive only, is made in five sizes with capacities of 40, 50, 75, 100, and 125 gallons respectively—Extra cans can be furnished for all sizes—The top casting is made of aluminum, and is balanced by counterweights enabling the agitator to be easily tilted. Both the agitators and the cans are driven by heavy double width roller chain.

Write for full information on this ideal Change Can Mixer.

The J. H. Day Company

Factories and Principal Offices

CINCINNATI OHIO

JUST PURCHASED MACHINERY

3—Pfaudler 150 gal., tilting type, glass lined, rouge and powder Mixers, with double motion agitator.
5—J. H. Day 100, 200, 400 lb., belt and motor driven Powder Mixers.
3—Day 15, 20, 40 gal. motor driven pony mixers.
2—Kiefer, Metal-Glass 100 gal. Percolating Units.
2—Hobart cream mixers, 5 to 80 qt. capacity.
6—Abbe Jar Mills, 2 to 4 gals. capacity.
6—Abbe Pebble Mills, 25 to 200 gal. capacity.
4—J. H. Day, Eureka, National Powder Fillers.
1—Day 40 gal. motor driven, Pony Mixer, monel can
3—40 gallon Pony Mixers, BRAND NEW.
1—Colton, worm style, tube filler.
1—Colton comb. closer and clipper.
2—Stokes No. 2 gear type tube and jar fillers.
1—Stokes No. 79 Tube Closing and Clipping Machine.
1—Stokes No. 90-D automatic Tube Filling and Closing machine.
2—Colton No. 14, No. 17, Automatic tube filling and closing machines.
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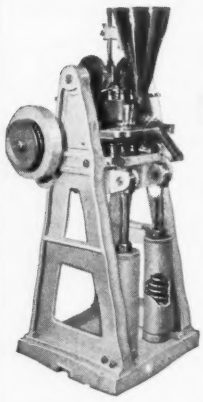

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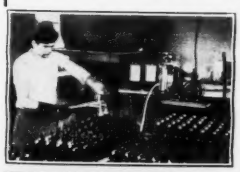

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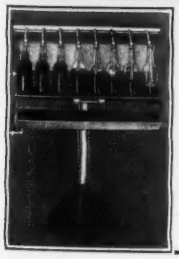

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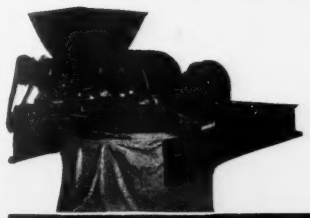

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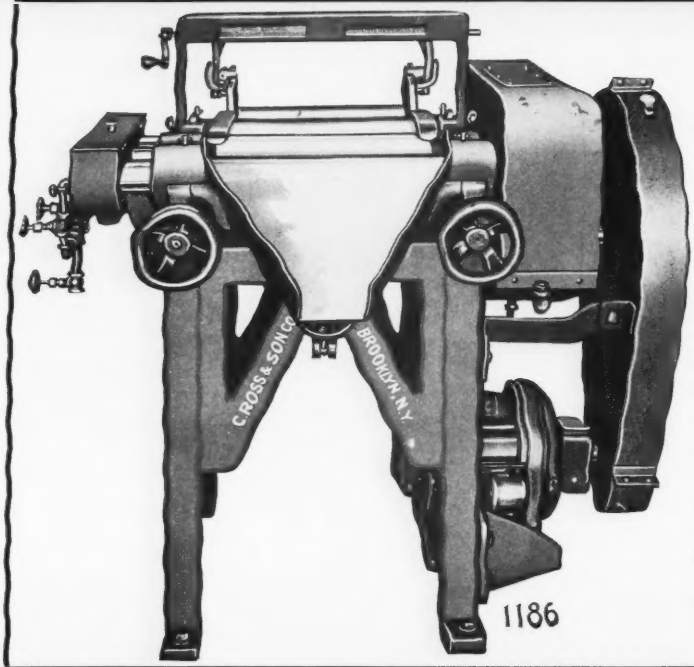

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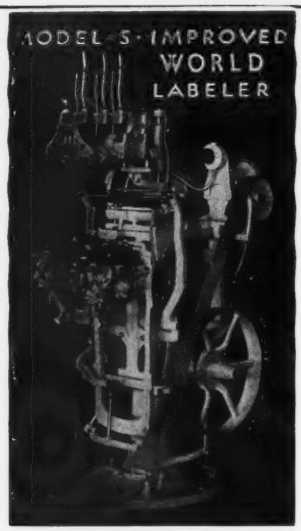

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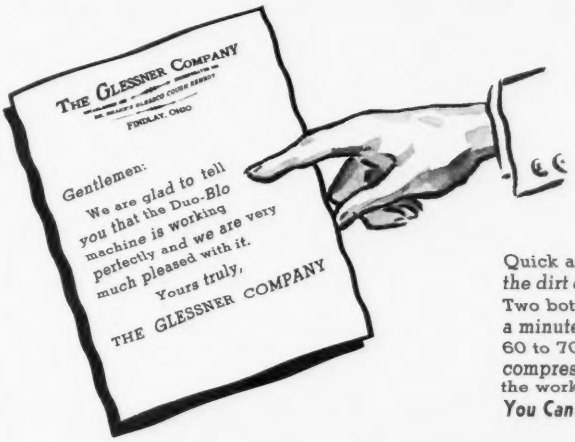
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Gentlemen:
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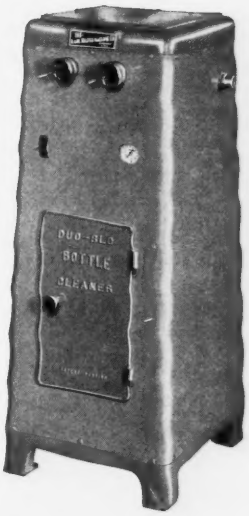
Yours truly,
THE GLESSNER COMPANY



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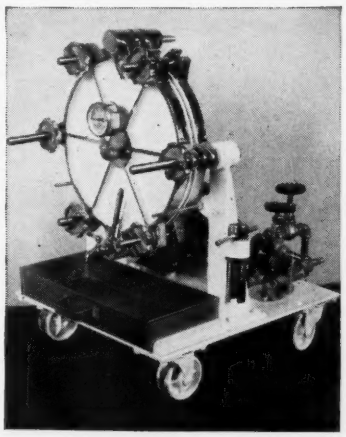

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1—National MG Powder Filler and Weigher.
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5—Pony Mixers, Day and Ross make, 8 and 15 gals.
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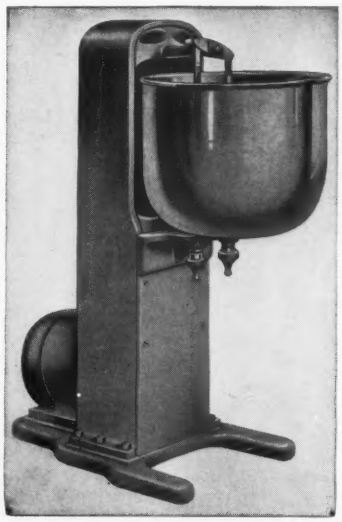

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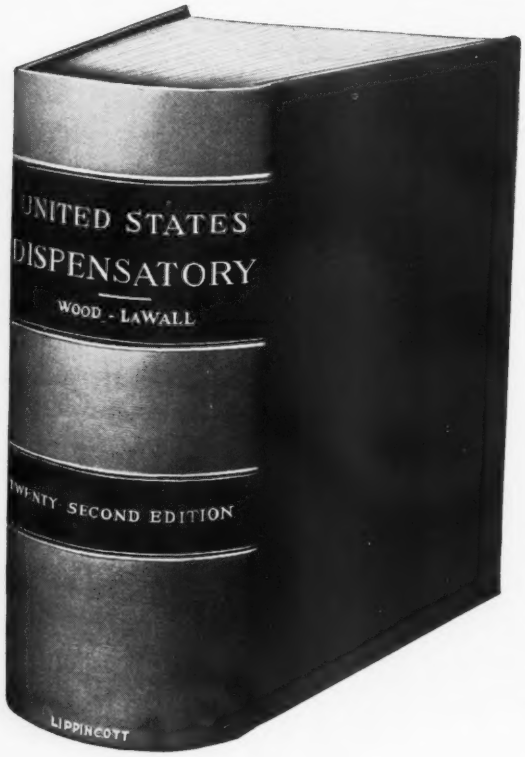

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ISOJASMONE

ISOJASMONE has recently been made commercially available by several European perfume houses. This compound is very similar to natural jasmone (the odoriferous principle of jasmin). Chemically, isojasmone is a derivative of cyclopentenone and differs from true jasmone only in the position of the side chains. A compound of this nature is obviously of real interest to the perfumer.

The odor properties of this substance are also very valuable. The strength of the odor was favorably noticed as soon as the compound appeared on the market and it harmonizes well with the true jasmone which is known to be present to a very small extent in jasmine flower oil but is nevertheless the odor principle.

Isojasmone can be used almost as extensively in other natural and synthetic mixtures as in jasmin oil, in which it is extremely useful. It is best, to use the very strong isojasmone in a well-rounded mixture as a 10 per cent. solution mixed with other aromatics. As an example, mix 10 parts of benzyl alcohol, 5 parts of musk ketone, 20 parts of amylcinnamic aldehyde, 10 parts of cinnamyl alcohol, 5 parts of linalool, and 50 parts of 10 per cent. isojasmone solution. This is a safe base for further work on flower oil compositions. For a synthetic jasmine oil use 20 to 40 per cent. of the above base; old fashioned synthetic jasmine oils may be modernized by the addition of 20 per cent. of the base.

Other flower compositions in which the isojasmone may be advantageously used are honeysuckle, tuberose, lily, ylang, reseda, and hyacinth. Lilac compositions are also benefited by the inclusion of a small amount of this mixture.

Isojasmone, when properly utilized, which always depends upon individual taste, bestows an inimitable natural effect on all flower compositions.

AMASYS NEO

Samples of Amasys "Neo," a new and very distinctive perfume base, have just been received by Polak's Frutal Works, Long Island City, from their laboratories in Amersfoort. Amays "Neo" is particularly valuable for modernistic perfumes. Its fine fragrance is already meeting with favor in fancy types of perfumes and also in flowery compositions to produce a delicate after odor. Amays "Neo," was created for exclusive perfumes and powders in which the highest standard of perfection is demanded.

Tetra-hydro-para-methyl-quiniline is a liquid the odor of which suggests its use in preparing artificial civets. It may be used in traces in such flower perfumes as jasmin, narcissus, hyacinth and lilac.

Trichlor-methyl-phenyl-carbinyl-acetate is a crystalline solid which has been known for some years, but not under its chemical name. It is used as a blender and fixer of rose compounds, to which it gives a sweet sharp top note. It may be used in floral compounds intended to be used in soaps and creams, as it does not discolor in the presence of alkali.

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GUMS AND MUCILAGES

Chemically, gums consist of compounds or mixtures of compounds of somewhat varying composition built up on a basis of carbohydrates. The chemistry of gums is, however, of little significance for their technical application, which is based on the physical nature of their solutions—solutions which show to a marked extent the character of hydrophilic colloids, particularly with regard to what is commonly termed "viscosity." Actually this "viscosity" is a complex property composed of a number of factors which are interrelated in such a way that it is very difficult to obtain a clear picture of the physical elements of a mucilage.

Thixotropy is the phenomenon observed in liquids which are fluid when stirred, but become stiffer or even set to jellies when allowed to remain at rest. It is observed in many two-phase mixtures such as cement concrete and calomelacacia cement. The phenomenon is shown very clearly by a number of inorganic colloidal solutions which form, on standing, rigid jellies easily converted into mobile liquids by shaking, only to gelatinize again on standing. Similarly, a jelly of Irish moss gum becomes liquid on shaking, but gelatinizes again on keeping. If this gelatinization occurs at constant temperature (a point which has not yet been proved) then Irish moss gum may be said to be thixotropic.

The gums used for wave-set lotions are, in order of importance: quince, karaya, psyllium, linseed, tragacanth, Irish moss, and pectin. Inspection of this list shows that the first four of these are characterized by the property of stringiness, and though it is not possible to state why it should have a special value in this connection, it is a significant fact that practical experience should have selected those very mucilages in which this property is well marked.

The word "glair" expresses the characteristic property of white of egg, and is synonymous with stringiness (German—Spinnfahigkeit). This remarkable property is one which has received very little attention from scientific investigators. Its most characteristic manifestation is the tendency of a stringy liquid to draw out into long strings, which sometimes carry droplets like beads on a thread. A stringy or glairy mucilage generally appears to have a high mobility, yet in some respects behaves as if it had a high viscosity. A vessel of such a liquid stirred rapidly with a rod gives a characteristic feel quite different to that experienced with a viscous liquid or colloid of anomalous viscosity—it gives an impression of inertia, as if the liquid rotated as a whole. That forces other than those existing in a true liquid are present is shown by the fact that, if such a mucilage is rotated rapidly and then allowed to come to rest, a brief movement in the reverse direction is observed before movement finally ceases, indicating the presence of a transient strain in the mass. This "elastic recoil" may also be observed with mucilages of starch and

"Get out your lipstick, maybe the chief will go for it."

COSMETICS

THE MALLINCKRODT · MAIL BAG ·

The Chemicals that we ordered by telephone at 3:30 yesterday just arrived at the writer's desk. We want to compliment you on the excellent service you have given us, and want you to know that we appreciate your cooperation.

M. C. W.

I am using your Aluminum Chloride N.F. in a preparation and am occasionally troubled with discoloration. Could it be that your Aluminum Chloride contains excess iron?

The discoloration you experience is probably caused by iron, but it does not come from our Aluminum Chloride. An analysis of past manufacturing lots shows that all contained less than 0.002%. It will be necessary for you to select all other ingredients in your formula carefully to prevent a recurrence of the difficulty you have reported to us.

M. C. W.

We understand that your company has a leaflet showing physical and chemical properties of Stearates. May we have one?

A copy of our leaflet "The Commercial Use of Stearates" is being mailed you today. While it is not complete, it will probably give you considerable information of value.

M. C. W.

One of the many Mallinckrodt catalogs shows the maximum limits of impurities for a list of selected chemicals. No cosmetic laboratory doing carefully controlled research work should be without this catalog. Write for your copy.

DOES THIS ALONE MAKE QUALITY?

"Heat to 80°C. Mix for two hours. Grind until . . . Add sufficient . . ."

No matter how perfect the technic—the finished product in the making of cosmetics can only be as high in quality as the basic ingredients.

Mallinckrodt chemicals have long been identified with the manufacture of fine quality cosmetics. Leading producers depend upon Mallinckrodt high standards to uphold and enhance their own enviable reputations.

Behind the Mallinckrodt seal of quality is almost three quarters of a century of experience and laboratory research. Thus, chemicals of exceptional purity and fineness are made available to the cosmetic industry by Mallinckrodt . . . for face powders, creams, deodorants, etc.

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Ammonium Carbonate	Resorcinol
Barium Sulphide	Silver Nitrate
Bismuth Subnitrate	Sodium Benzoate
Borax	Zinc Stearate

tragacanth. Finally, it may be observed that glair appears to be related in some way to gelatinization, as it appears in a solution of gelatin on the point of setting to a jelly.

The oil globules of an emulsion may be kept apart by increasing the viscosity of the medium in which they are suspended, but has the disadvantage that a high viscosity makes the product difficult to pour out of a bottle. By the use of a gum, e.g. tragacanth, which confers the property of anomalous viscosity on the continuous phase this objection is overcome—the high velocity at low rates of shear keeps the oil globules apart, while at higher rates of shear, such as prevail when pouring out of the bottle, the viscosity is much lower.

In practice, however, emulsions made according to this formula are coarse and not very stable, and it is necessary to add a substance which is capable of protecting the oil globules by forming an adsorption film round them. Generally the substance used is gum acacia, which is one of the most effective emulsifying agents. The addition of this gum alone, though it prevents the coalescence of the oil globules, does not prevent them from rising under the influence of gravity ("creaming") so that generally the presence of both tragacanth and acacia is necessary to give a perfect emulsion.

Gum tragacanth is produced in the mountainous region extending from Asia Minor through Kurdistan to Persia. Commercially "Persian tragacanth" is considered a better quality than the Turkish or Syrian variety; but these designations are at times arbitrary and, since the quality of a gum may be determined by direct measurement, are quite unnecessary. To some extent it is possible to grade samples by inspection, those of high quality being in the form of thin translucent flakes swelling in water to form an almost clear mucilage. Inferior grades are denoted by the thickness of the flake, discoloration, opaqueness, and the presence of particles of dirt; the solutions being turbid and frothing easily. When the gum is in the form of powder these criteria cannot be applied so readily.

The viscosity of tragacanth mucilage may be altered by a number of factors. Powdering the gum may cause a loss of strength equivalent to a reduction of 20 per cent, and for this reason when preparing a mucilage it is more profitable to use the flake gum instead of powder, as the quantity of gum required is less and the cost of powdering is saved. If the flake is soaked for several hours in water a uniform mucilage may then be made by rubbing the mixture several times through muslin. Heat should be avoided, as although a limited period of heating (15 minutes) at 100° C. results in a slight gain in viscosity, longer periods (1 hour) produce a big fall. The use of tap-water should be avoided, as the presence of calcium ions reduces the viscosity of tragacanth mucilage; in one case it was found that the difference in viscosities between mucilages made with tap water and distilled water respectively was equivalent to a difference in concentration of gum of 8 per cent. in favor of the latter.

In view of the wide variation in commercial samples of tragacanth, it is absolutely essential that supplies should only be bought after making a test of a sample, or alternatively should be obtained from a dealer who is prepared to guarantee a uniform product.

Until fairly recently karaya gum was regarded merely as an adulterant of, or substitute for, genuine tragacanth, and it appeared in commerce under the name of Indian tragacanth. Its modern employment in cosmetics in particular as the chief ingredient of hair setting preparations is not only due to its lower price, but also to the clarity of the mucilage made with it and to a greater suitability for the purpose.

Mucilage of karaya is always made from the powdered gum, and for setting lotions the most convenient form of issue is in the form of powder suspended in alcohol, the lotion being made as required by pouring the mixture, in a thin stream, into a sufficient quantity of hot water. It should then be allowed to stand for a few hours to allow the gum to swell completely.

Like tragacanth, karaya shows considerable variation in strength between different samples, so that products must be standardized either by testing the gum or purchasing under guarantee of uniformity.

Gum acacia, or gum arabic, is of less interest to the cosmetician, its chief application being as an emulsifying agent. Moderately dilute solutions do not show any considerable degree of viscosity, but are characterized by the readiness with which they froth. When allowed to stand with 1 to 1½ times its weight of water the gum dissolves to form a viscous liquid which may easily be mixed with more water to form a solution from which, on standing, a little gelatinous matter may separate. Though the extensive cracking of these so-called "bleached" (i.e., cracked) gums is considered a sign of quality, good Senegal gums are generally clear, uncracked, and hard to break, although they dissolve in a similar manner to that described above.

It is generally better to buy acacia in the form of lumps. When required for use the lump gum is allowed to soak in a small quantity of water, the solution is diluted, and strained without the application of pressure. In this way both gelatinous matter and woody fragments are readily removed. If, on the other hand, powdered gum is used for making a mucilage this is impossible, and the insoluble matter present in the gum may cause trouble if the mucilage has subsequently to be passed through an emulsifier.

Carob seed gum, made available on a commercial scale in recent years, is the gum obtained from the locust or carob bean. It forms a white powder swelling with cold water and forming a uniform mucilage on heating. This mucilage has the property of anomalous viscosity, without stringiness or glair, and is therefore similar in physical character to tragacanth, although the rise in the shear-flow curve is less marked than in the latter case. Thus carob seed gum may be used as a suspending agent to replace tragacanth, though it is somewhat less effective than the latter. The fact that its solution is turbid, owing to the presence of vegetable tissues will, however, prove in many cases a real objection to its use.

Mucilages prepared from quince seeds, linseed, psyllium seeds are very similar in physical character, being all characterized by a marked glair. It is not possible at present to give any satisfactory method of expressing this character in physical terms, so that no numerical standards can be laid down for the mucilages. When purchasing material, the genuineness of a sample of seed may be determined by inspection, but the amount of water-soluble matter in the seeds should be determined, as this is subject to considerable variation.

Mucilages of the above seeds are best prepared by soaking the material for several hours in hot water, without boiling, as too great a heat is liable to cause the extraction of more coloring matter. After straining through muslin, the residue should be extracted with a further quantity of hot water, in order to recover the whole of the mucilage.

For wave-setting lotions, quince seed is generally preferred, and a mucilage of 2½ per cent (calculated on the seed) will generally be found a suitable strength.

Dilute solutions of gums are naturally liable to undergo decomposition from the growth of moulds and other micro-organisms, although in general they are stable if this growth is prevented. In practice the addition of a preservative is thus necessary. The question of the most suitable preservative to be added to any aqueous solution of this type is one which cannot be settled by one single recommendation, as every preparation has to be considered individually. For mucilages in general the following may be recommended: Alcohol (if a sufficient concentration is permissible); chloroform water; thymol (sufficient to saturate the solution); sodium benzoate (1 in 400). The efficiency of the hydroxybenzoic esters is often limited by the fact that their solubility in aqueous media having an acid reaction is very low. *G. Middleton S. P. C.*

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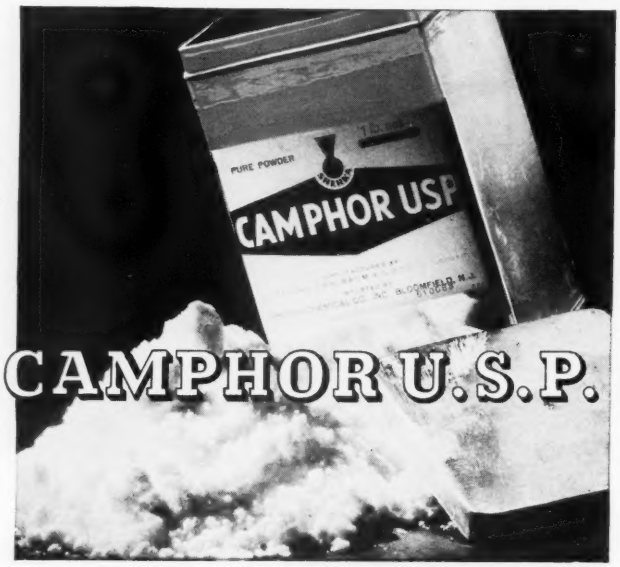

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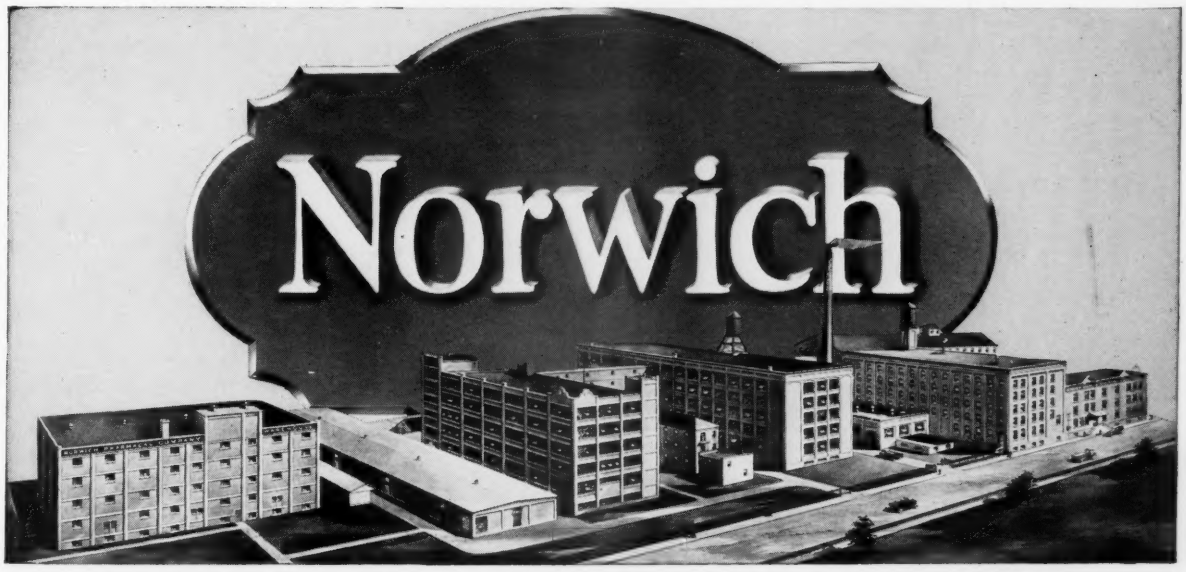

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NEW SUPPOSITORY BASE

The ultimate aim of suppository medication may be systemic or local, and attention should therefore be paid to the type of action required and the means of insuring it. For systemic action the drug must be presented in readily absorbable form and should come into close contact with the mucosa. Aqueous solutions are of course most desirable in this respect so that it would seem illogical to apply water soluble drugs to a watery membrane to be carefully insulated therefrom by a coating of wax, fat or oil as must obviously be the case with cocoa butter.

When local action is required, as in the treatment of hemorrhoids and other rectal conditions, absorption may be secondary to a prolonged and intimate contact of the drugs with a smaller specific area.

Having these two main ideas of systemic and local actions in mind, much thought was given to the possibility of finding a suppository excipient which would most nearly fulfil both these requirements in addition to satisfying the many other minor but necessary conditions.

In view of the recent commercial availability of certain glyceryl and ethylene glycol esters of fatty acids with their excellent property of self emulsification, similar "synthetic fats" having free hydroxyl groups were investigated with a view to taking advantage of this characteristic.

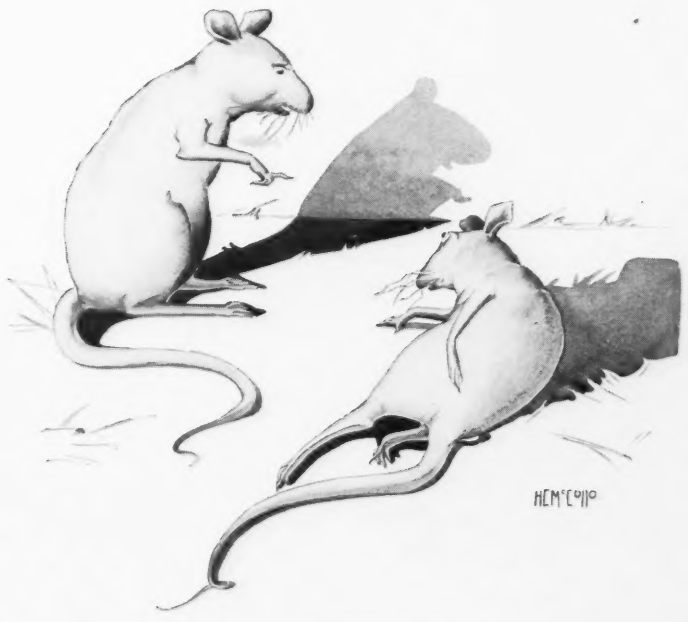
Unfortunately the melting points of the mono glyceryl and ethylene glycol stearates and oleates were either much too high, or were of oily character, while admixture of other compatible low melting substances interfered largely with self emulsification and were unsatisfactory in other ways.

It was found, however, that the stearyl esters of *a*-propylene glycol possessed lower melting points and other favorable properties which rendered possible their adaptation to the purpose in view. By using an excess of glycol and controlling the conditions the formation of distearate is kept at a minimum. The melting point of the pure distearate, however, is about 40° C. so that the presence of small quantities is of assistance rather than hindrance, the resultant melting point being just in the desirable range. For convenience the term monostearic ester of propylene glycol has been shortened to "monolenen."

The stearic acid ester of *a*-propylene glycol as prepared for use as a suppository mass and using the best grade of commercial stearic acid is an ivory-colored, somewhat translucent wax-like solid, smooth and unguentous but not greasy to the touch, and with an agreeable odor reminiscent of cocoanut. It is of good consistency, amorphous when freshly prepared and cuts like firm cheese. It gradually changes in physical state on keeping, becoming more brittle and assuming a crystalline structure particularly evident upon fracture. This physical change common to many of the natural waxes and fats is accompanied by a rise in melting point.

The melting point of the fresh substance is from 33° to 34° C. rising after 24 hours or so to 35° C. On continued storage a maximum of 37° C. is reached in about three weeks after which no further change has been noticed during a period of six months. The congealing point of the aged material is 36° C.

It is soluble in the common organic solvents, *e. g.*, alcohol, chloroform, ether, acetone, benzol, etc., and in mineral and



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The substance itself is hydrophilic in character, absorbing water to some extent. This property, as with the glycerol esters, is enhanced by the presence of small quantities of the soaps of organic or inorganic bases. The melting point is but little affected by the addition of say 1-2% of sodium or ethanolamine stearate while the resulting product swells considerably in cold water, becoming completely self emulsified with the liquid as the continuous or external phase. The *pH* of a 10% emulsion lies between 7 and 8.

As a suppository matrix it possesses several advantages. It congeals much more readily than cocoa butter and may be "poured" at a higher temperature. Molds do not require nearly as much chilling while the shapes are removable with the greatest ease without external lubrication. The molded forms are of particularly fine and clean appearance having a firm bright surface of smooth lubricant quality, without sense of greasiness. This lubricant quality is greatly increased by slight wetting, thus rendering insertion of the suppository particularly simple and free from the objectionable features attendant upon cocoa butter bases. Suppositories made from "Monolene" withstand warm weather better than cocoa butter and do not give rise to as much spoilage in storing.

In contact with considerable water *in vitro* "Monolene" absorbs the liquid, swelling to several times its original size, eventually forming a soft creamy mass which on shaking or stirring becomes a hydrophilic plastic ointment. This action is independent of temperature, for such swelling and ointment formation take place in ice water.

At body temperature the substance melts but at once emulsifies with any fluid present, such action being intensified under conditions of use by body or muscular movement. In the rectum or rectal canal the voluminous mass so formed may be expected to extend to the more inaccessible crypts and rugae, or at least to provide more efficient contact with the muscosal walls.

Being hydrophilic, such a substance should admit of the penetration and diffusion of aqueous fluids and consequent extraction of water-soluble medicaments more readily than would be possible from fats like cocoa butter. Absorption and efficiency of such drugs should be enhanced, while it is obvious that actual melting of the base is not essential to obtain the medication.

A further advantage lies in the possibility of localizing certain insoluble drugs used in rectal treatment. Such drug particles are held by the mass in intimate contact with the walls in the desired area and are not widely distributed as with a free flowing non-emulsified fat, thus prolonging or intensifying treatment.

Oil-soluble medicaments, moreover, are applied in fine subdivision in the disperse phase of the emulsion. Schroff recently showed that cocoa butter emulsified with lecithin enabled absorption of water-soluble drugs to take place from the external water phase almost as quickly as by injection. By reversing the phases of the emulsion by cholesterol, more prolonged local action was possible.

Preliminary pharmacological tests have been directed toward ascertaining irritant or other undesirable effects of the base. Blank suppositories of small size were all retained by rabbits (starved for 24 hours previously) with no defecations until several hours later. Feces were soft, well formed and somewhat unctuous. No diarrhea, hyperemia or irritation of any kind was observed. These points were also confirmed by human tests.

Observations to date show that water-soluble drugs are readily absorbed from this base—the effect of Sodium Alurate for example, in dosage sufficient to cause narcosis, exerted its effect in about 90 minutes. The same dose in an entirely fatty base took about 50% longer.

It is possible, of course, that differences in other cases may be less marked, and unqualified general superiority is by no means claimed as yet. It would seem, however, that in "Monolene" we have a suppository medium whose physical properties render more likely the fulfilment of theoretical considerations of this type of medication, while providing minor points of distinct advantage to both maker and user. *J. C. Bird, J. Am. Pharm. Asso.*

STABLE TANNIC ACID SOLUTION

Bernard Fantus and H. A. Dyniewicz, writing in the Journal of the American Medical Association, describe experiments leading to a more effective solution of tannic acid for the treatment of burns. The solution has the following properties, which represent an advantage over the usual solutions used. The solution has good keeping qualities, it produces a denser coagulum, and it has bacteriostatic action.

Davidson applied a 2.5 per cent. solution of tannic acid in water to the burnt area by means of compresses. Because of the rapid change a tannic acid solution undergoes on standing, this solution had to be prepared as needed. More recently, a 5 per cent. solution is sprayed on the affected areas. This solution is no more stable than the dilute one. On the other hand, a 10 or 20 per cent. solution has been recommended because it produces a firmer and more adherent crust more rapidly. Experiments show that the more concentrated solutions do give a more compact precipitate with blood than do the more dilute solutions and also keep better. A 10 per cent. solution is therefore recommended.

The density of the precipitate is also affected by the isotonicity of the vehicle, and it was found that Ringer's solution was the best solvent for the tannic acid. Again, the influence of pH was investigated, and it was found that solutions at the normal pH values of the original tannic acid solutions, namely, 3.22, gave the best type of crust.

While a 10 per cent. solution of tannic acid has better keeping qualities than a more dilute solution, quinine tannate precipitation shows that after two weeks tannic acid deteriorates rapidly and a preservative is necessary. Benzoic acid 1.1,000 or salicylic acid 1.1,000 preserved a 10 per cent. solution of tannic acid for a period of two and one-half years at room temperatures. At the end of this time, solutions still contained 8.5 per cent. of tannic acid. This same concentration of salicylic acid produced a solution with marked bacteriostatic effect.

As a result of these investigations, the following solution is recommended for the treatment of extensive burns.

Potassium chloride	0.42 g.
Calcium chloride	0.84 g.
Salicylic acid	1.00 g.
Sodium chloride	10.50 g.
Tannic acid	100.00 g.
Distilled water, to make	1,000 cc.

Mix and permit to stand with occasional agitation until dissolved and filter, if required to dispense a clear solution.

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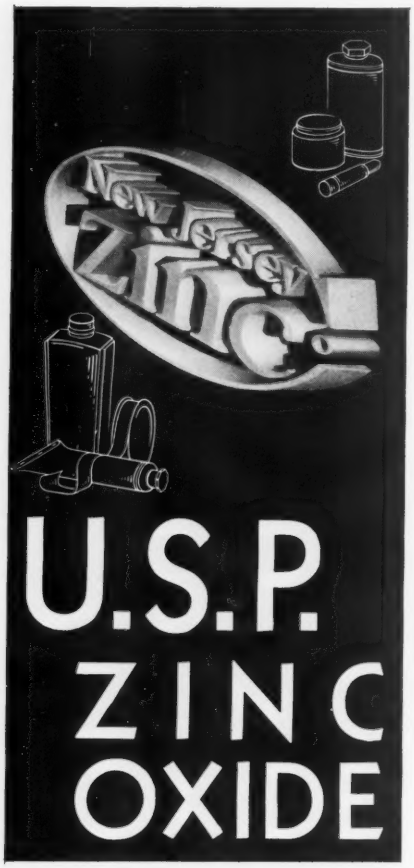

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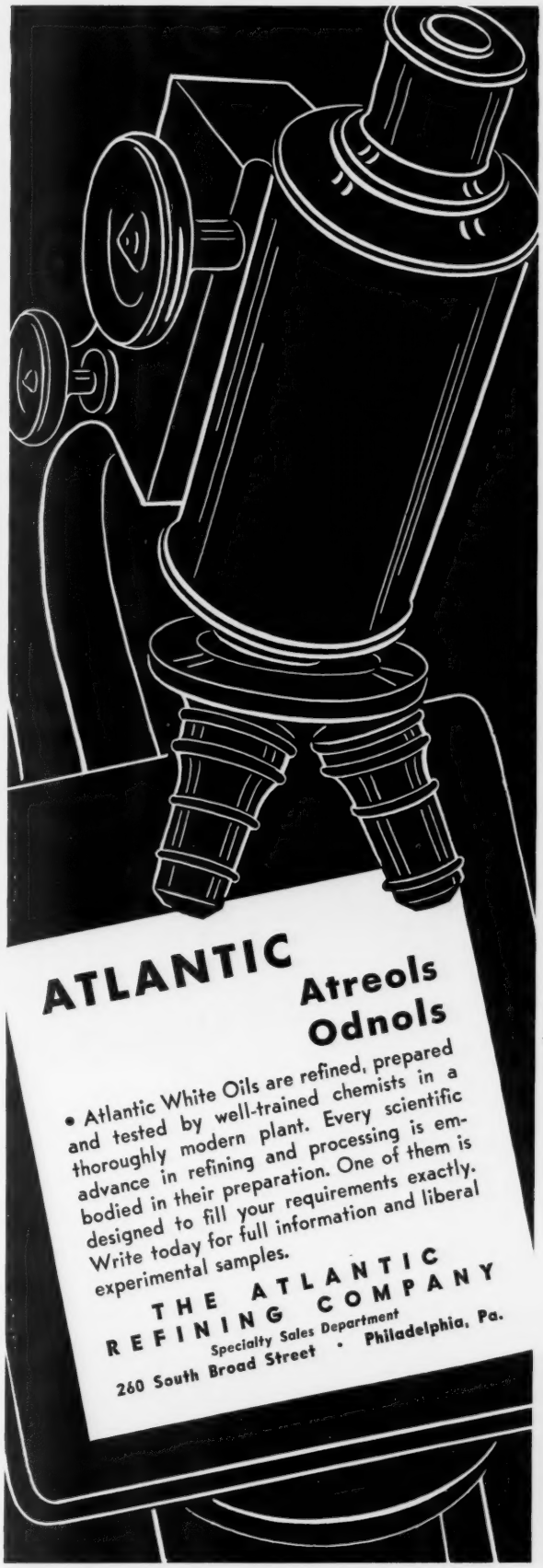
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FOOT POWDER ANTISEPTIC

We are told that in order to label a foot powder antiseptic, we must include some ingredient that actually is destructive to germs. Can you help us out in this matter? New Haven.

This problem is not as easy as it seems on the surface since a small amount of foot powder is dissolved in a large amount of water and the dilute solution must be antiseptic. Probably some of the best materials you could use are paraformaldehyde or oxyquinoline sulfate. Some of the newer chlorinated cresols or xylenols might be useful. A sufficiently large proportion should be used in the powder to make a solution for use that contains about one-tenth of one per cent. of the antiseptic.

readers'

LOTION

For quite a long time we have been making a powder base face lotion and hand lotion in accordance with the formula enclosed. This makes a good appearing lotion, however, we have had trouble with the perfumes. The perfume oils added to the lotion seem to change odor after the preparation has aged for three or four weeks. The perfume laboratories do not seem to be able to determine the trouble. Would you be pleased to have comments regarding this condition. Indianapolis.

Some time ago we had occasion to investigate exactly this situation and the answer eventually turned out to be quite simple. You have a quince seed lotion preserved, you hope, with sodium benzoate. Sodium benzoate is a poor preservative and what is happening is that quince seed mucilage is undergoing at least incipient decomposition. Then, either the decomposition product reacts with the perfume, or the odor from the quince seed covers that of the perfume. Use one of the esters of para-hydroxybenzoic acid as a preservative and you will find that the odor will stand up far better.

EPHEDRIN SOLUTION

In an article on ephedrin the use of benzocaine is suggested in a nasal inhalant. We should like to make an aqueous solution for the purpose but do not think that benzocaine is sufficiently soluble for the purpose. How can we get benzocaine into solution?

The inhalant we intend manufacturing should be isotonic with nasal mucous and we would like to know the pH value of mucous in order to adjust the acidity of our solution.

Would the addition of glucose or gluconic acid facilitate the solution of the benzocaine? Brooklyn.

You will find that benzocaine is not absolutely insoluble in water and that a saturated solution will probably have definite anesthetic effect. If this is not sufficient, first dissolve the compound in a small amount of alcohol and then dilute with water.

We do not know the pH value of nasal mucous which varies according to the health of the individual. You must work the values out for yourself or retain a qualified consultant to do so.

TOBACCO STAINS

What type of solution is needed to remove tobacco stains from finger nails? Chicago.

Concentrated ethyl alcohol is probably as effective as any solution.

MILKY SOLUTIONS

I manufacture a cutical remover and permanent wave solution, but am having a great deal of trouble with the emulsion. I want something that will make these products white and milky with a suds formation when shaken. Something that will not change color or separate. Can you help me? Los Angeles.

The addition of a small amount, in the neighborhood of one to two per cent., of oleic acid to your products should give you the milkiness you desire. Oleic acid will react with the alkali present in permanent wave solutions and cuticle removers to form a soap, which will make the solutions milky and also permit lather formation. If the milkiness is not sufficient, a small amount of mineral oil may be mixed with the oleic acid before the addition of the alkaline mixture.

MEDICAL QUESTIONS

Can adrenalin chloride solution 1:1000 be used internally? If so, what should be the dose? And if taken into the stomach, would any part of it get into the blood stream and pep up the adrenal glands? If used in a preparation for treating the prostate gland, would it be effective as a sedative? (the prostate remedy to be used through the rectum by means of an applicator) What can we use that will find its way through the rectum wall and prove effective as to contracting the gland? What would you suggest as the best and safest diuretics? Please give us a formula for chronic gonorrhoea. Pueblo.

We suggest that you get in touch with the American Medical Association, 535 North Dearborn Street, Chicago, Illinois for the information you require.

SULFONATED FATTY ALCOHOL PATENTS

We are interested in securing information as to if and what patents have been registered in the United States with regard to sulfonation of fatty alcohols.

There are two patent groups to be kept in mind. 1 the manufacturing patents and 2 the patents for use.

In some countries the patents of either one of these groups can be registered, without the other, but in certain countries the patent office has refused the registration of manufacturing patents for the sulfonation of fatty alcohols, as these did not contain anything new.

We understand it is possible that all manufacturers or users of sulfonated fatty alcohols are licensed carriers of the patent owners, on a royalty basis, and therefore are possibly forced to purchase the fatty alcohols from the producers, who are members of a Manufacturers' Syndicate and are also the patent owners of the sulfonation methods. Is this information correct with regard to the United States?

Fatty alcohols are mainly used by compounders of chemicals who sell their products to manufacturers of leather and textiles.

We would also like to know what quantities of fatty alcohols are produced in the United States?

questions

As far as we know, the sulfonation of fatty alcohols is restricted by patent ownership, to a corporation controlled by DuPont and by Proctor and Gamble. Proctor and Gamble sells for use in the cosmetic field and DuPont in textile and others. The patent originated in Germany and this restriction apparently only holds for the United States. We have no information whatever, on the quantities of fatty alcohols produced in this country.

We recommend to your attention a book published by Allgemeiner Industrie-Verlag G.M.B.H., Berlin, Germany, called "Neuere Sulfonierungsverfahren zur Herstellung von Dispergier-Netz und Waschmitteln" by Dr. Ing. A. van der Werth and Dr. Ing. F. Muller, which lists and describes all patents issued in all countries on the subject of wetting agents. The classification is such that specific patents can fairly readily be found, as for instance, Section III, (b), covers the sulfonation of high molecular fatty alcohols and their derivatives.

HARDENED KARAYA GUM

I am having considerable trouble with karaya gum. This gum settles and forms hard cakes in the case in which it is delivered to my laboratory. I do not think that the moisture in the air is of any importance in this instance. But still worse is the case of hardening when I make a mixture of alcohol and gum. The cake at the bottom of the bottle is so hard that an ice pick is needed to get it into suspension again. Can you help me out in avoiding this difficulty? Chicago.

We must disagree with you in the question of moisture. There is little doubt that moisture from the air or improperly dried gum, is responsible for hardening in the original packages. Also, when the gum is mixed with alcohol, the moisture in the gum, or moisture in the alcohol, is responsible for the hardening. If you use isopropyl alcohol, use the 98 per cent. rather than the 91 per cent. grade.

There are processed karaya gums available on the market, in which pH and moisture are carefully regulated and give products that will not cause trouble.

STANNITE DEPILATORY

In the third edition of the Drug and Cosmetic Catalog of 1935-6, on page 28C, you mention the use of alkali stannite, in depilatories. Through my own efforts in a research laboratory, I have just reached a similar result, without previous knowledge of the information in the catalog. My object in writing you this letter is therefore self-evident. I would appreciate the following information.

Are there any depilatories on the market at the present time employing sodium stannite? Is the use of said compound legally tied up so that only one company may use it? Is the manufacture of sodium stannite a patented process? Is there anything at all to prevent me from legally marketing such a preparation? Chicago.

To our knowledge no depilatory on the market is based on sodium stannite, and we have heard some rumors to the effect that the product is unstable. As regards legal restrictions, there is one, namely, U. S. Patent 1,899,707, which covers the use of sodium stannite as a depilatory on the human body. However, should you wish to argue the matter, there was an article in a leather publication several years before the patent, which describes the use of sodium stannite for depilating hides.

DISCOLORED LOTION

We are wondering if you could give us a little advice on our skin balm formula. The lotion stands up very nicely and women seem to like it, but it darkens on standing. It is almost pure white when first made and gradually turns a little darker week after week. Is there anything we could add to the lotion that would keep it from turning dark, as we wish it to retain its original white color. Memphis.

You have lecithin in your formula which is a well-known offender from the point of view of darkening with age and you can probably do very well by eliminating it from your formula. In addition, an anti-oxidant will prevent some of the unsaturated compounds present from oxidizing and turning dark.

HEAT GENERATING CHEMICAL

Can you tell us of the name of a chemical that will generate heat when moisture is applied? Boston.

Quick lime will become hot, due to hydration, when water is applied.

BUST PREPARATIONS

Can you give me some information about the preparations of woman's bust products in the country? That is, products that enlarge or reduce the woman's bust. It has come to our attention that a good many of them are for sale abroad. Are they efficacious? New York.

To our knowledge there are very few preparations available in this country for the purpose you have in mind. There is no reason to believe that a preparation of this kind could be both safe and effective. Administration of various types of hormones under physician's supervision might be of service, but manipulation remains a favorite method of treatment.

VANISHING CREAM-SOAPLESS SHAMPOO

In formulating a vanishing cream, we change from potassium hydroxide to triethanolamine as the emulsifier. What is your opinion of this material as regards subsequent discoloration?

What is the best base for soapless shampoo? Bombay, India.

Triethanolamine creams generally darken to some extent on aging, but in many cases this darkening is not very noticeable.

Soapless, non-lathering shampoos are generally based upon sulfonated castor or olive oil or mixtures of both.

HORMONE CREAM

I have a formula containing hormonal material but no directions for compounding. Can you help me out in this matter? San Francisco.

The formula you include is a very poor one and quite incomplete. It is apparently intended to be a vanishing type cream. Using any of the standard vanishing cream formulas, melt the stearic acid with the gland extracts, lanolin and cholesterin and then emulsify in the usual way.

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Java 4c
Coriander oil $2.00
Cream of Tartar 1c
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Hydrochloride $1.50
Sulfate $1.50
Fennel oil 10c
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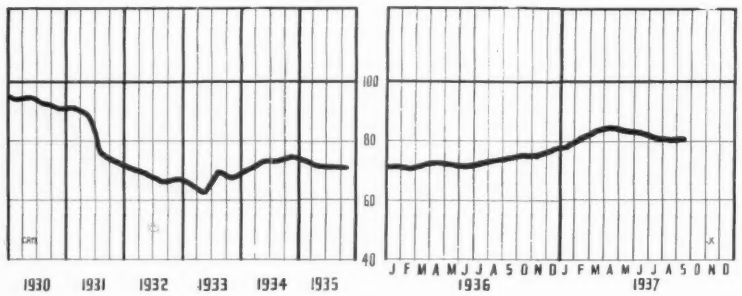
Jaborandi leaves 4c
Japan wax 1c
Lemon oil, Calif. 15c
Menthol 5c
Orange oil, Italian 25c
Papain, pure, powd. 40c
Pennyroyal leaves 2c
Peppermint oil, natural 5c
redistilled 5c
Plantago seed ¾c
Podophyllin 90c
Rhubarb root HD 15c
Rosemary oil 1c
Saffron, Spanish $1.50
Savory leaves 1c
Soap bark, crushed 1c
Spearmint oil 10c

Down

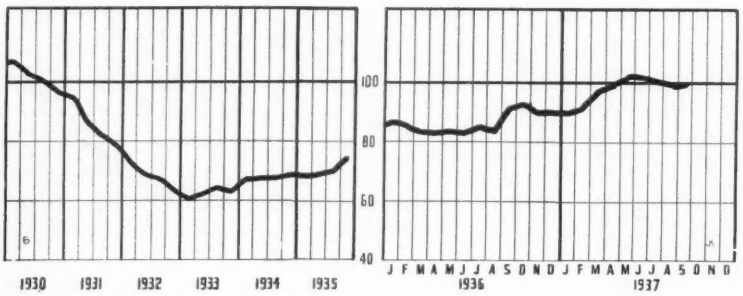
Balsam Copaiba Para 2c
Buchu leaves 4c
Chamomile flowers, Hungarian 6c
Echinacea root 12c
Gentian root 2c
Iceland moss 1c
Ipecac root 5c
Manna, large 3c
small 2c
Mullein flowers 5c
Vanilla beans, Bourbon 50c
Wahoo bark of root 3c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100



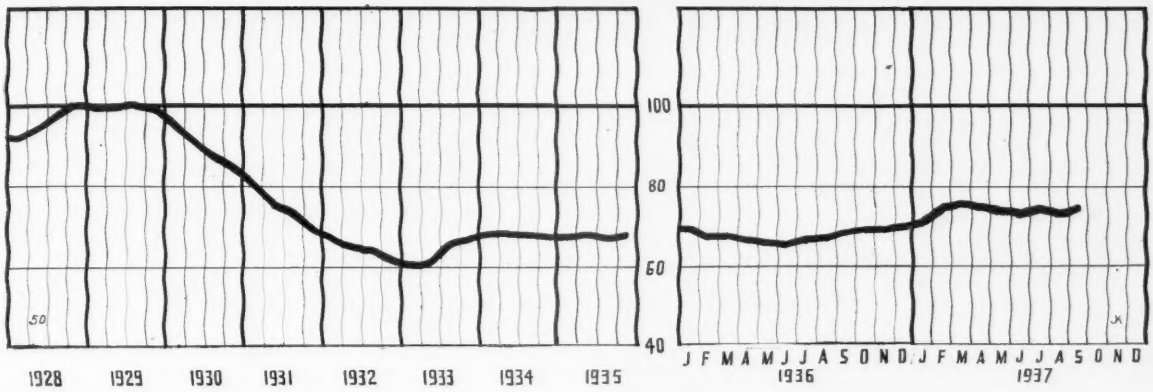
The cosmetic raw materials index rose from 80.5 to 80.6. Balsam copaiba declined from 30 to 28 cents; Japan wax increased from 9 to 10 cents; menthol was 5 cents higher at $3.25. Although a good production of menthol was expected this year the Japanese market was quite firm and it was reported that they were not open sellers. More complete reports on production will be available in our next issue.

15 Botanicals—Weighted Price Index. 1926 = 100.



Six changes in quotations averaged an increase in the botanicals prices index from 99.5 in August to 99.8 in September. Aloes increased from 25 to 28 cents; buchu continued its decline, reaching 50 cents; ergot dropped from $1.60 to $1.45; gentian dropped 2 cents to 15 cents; ipecac declined from $1.35 to $1.30; rhubarb jumped from 35 to 50 cents.

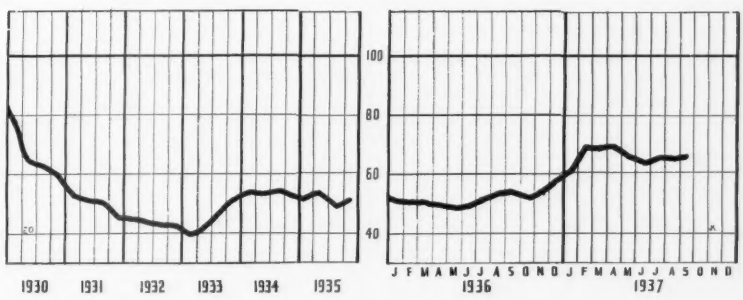
50 Raw Materials—Weighted Price Index. 1926 = 100.



With rises in each of the three component indices, the 50 commodity index increased from 73.6 in August to 74.4 for September. Of outstanding importance to the consuming industry was the developments in China. Practically all raw materials with an origin in either China or Japan were materially firmer or higher in price. Acute shortages of ephedria and anise were already recorded and all other items from the Far East tended toward this end.

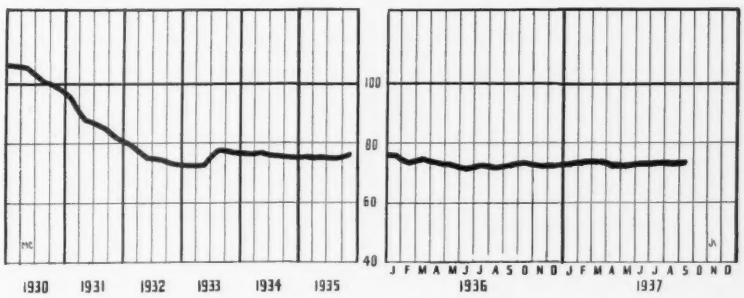
15 Essential Oils—Weighted Price Index. 1926 = 100.

Three price changes increased the essential oils index to 66.2 from the previous 65.2. Anise oil rose from 70 to 95 cents; citronella reached 50 cents; peppermint oil increased to $2.55 from the previous $2.50. Reports indicated peppermint crops were not doing as well as last year. The situation in anise due to the trouble in China was so acute that the spot market was advancing steadily day by day.



15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.

The medicinal chemicals index averaged a slight increase, from 73.4 in August to 73.6 in September. Cream of tartar was one cent higher at 20¼ cents; menthol increased from $3.20 to $3.25; mercury metal was $2.00 lower at $92.00 a flask. Ephedrin alkaloid, hydrochloride and sulfate advanced sensationally on the absence of offers of Ma Huang from China and the extreme scarcity of the finished products here.



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VANILLA BEANS

A spot decline of 50c per pound was noted on Bourbon vanilla beans. Quotations now range from $3.75 to $4.25 per pound. The lower quotations were made possible by the decline in French exchange.

Statistically, however, there was little change in the Bourbon situation. The market from this point of view was as firm as ever as the crop of Madagascar beans is practically exhausted and the next crop, Jan-Feb.-Mar. will not be over 425 tons—about the same as last year—it was said.

Imports of Bourbon beans so far this year were substantially below imports for the same period of last year indicating that prices before the recent decline were too high. At the new level of prices consumption is reported to have improved materially.

It is generally anticipated that prices of Bourbon beans will remain comparatively high for some time yet. Ultimately, however, an increase in output is to be expected as higher prices have encouraged new plantings of vines to some extent. Just when definite results from the new plantings will become effective is not known but crops from now on will be watched carefully for any signs of increased production.

The market for Mexican beans continued quite firm at levels which are again considerable higher than the Bourbon grades. Cut beans ranged in price from $4.50 to $4.75 while whole beans were offered at a range of from $4.75 to $5.50. Crop prospects for Mexican beans was not good it being said that production would be from 20 per cent. to 30 per cent. below previous estimates. Unsold stocks here are also small and practically nothing is available in Mexico.

As the next Mexican crop does not come in until June-July-Aug. 1938—almost a year hence—a firm market is in prospect for some time. Good quality Mexican cuts are especially scarce.

ALCOHOL

Business was reported well up to summer volume and transactions took place under very firm market conditions. Except for the lower price of corn, raw materials were generally maintained. Although corn declined in value it should be pointed out that it was still selling at comparatively high prices, hence the cost of grain alcohol was well maintained.

The Lucas Amendment to the Sugar Act of 1937 (H. R. 7667) was stricken out in accordance with Senate action. This amendment would have increased the cost of industrial alcohol by approximately eight cents per gallon so that its deletion from the Sugar Act is decidedly favorable to the chemical industry.

MENTHOL

Shipments of menthol into this market during the period from January to May, inclusive, were heavy but little material arrived here from Japan during the last three months. The result was that dealers found it necessary to affect replacements but Japan was said to be anything but a willing seller. Spot prices were necessarily advanced 5c to $3.25 per pound in case lots.

Although the carryover in Japan is not large this year the new crop will come in very shortly. First cuttings have already been made in Sambi. No Government figures are available as yet but it is generally anticipated that, as weather conditions throughout the growing season were favorable, a good yield will be forthcoming. We expect to have some production figures on the new crop in our October issue.

While prices declined in September and October of last year when new crop material came on the market, the situation this year is complicated by the war in the Far East. It might be expected that with the hugh war expenditures made necessary by Japanese invasion of China, every effort would be made on the part of the Japanese to increase export business by favorable prices. This was said to be likely on such manufactured items as come into direct competition with other finished products abroad. On such raw materials in which Japan has practically a monopoly it is most likely that full prices will be asked. This is a supposition advanced by some factors in the trade who feel that even though a large production of natural menthol is obtained this year prices may not react to the extent characteristic of such an eventuality in the past.

This item again turned in favor of buyers. A further reduction put the market at $2.20 per pound in 100 pound drums, and $2.35 per pound in 25 pound drums.

It was reported that the downward tendency noted in sulfanilamide over the past several weeks would continue until the market reached at least $2.00 a pound.

ROSE OIL

According to preliminary information from the Agricultural and Cooperative Bank of Bulgaria the acreage of rose gardens in 1937 amounted to approximately 6,100 hectares, with a crop of rose flowers amounting to 11,230,000 kilograms. The production of rose oil amounted to 2,850 kilograms.

The quality of the rose oil of the 1937 crop is estimated to be very good and much better than that of last year because of the dry weather that followed the rainy period.

PEPPERMINT OIL

It is still too early in the season for any authoritive figures on the production of American peppermint oil. Various reports were current early in the period under review to the effect that the acreage in the St. Johns area of Michigan would be considerably curtailed due to excessive moisture experienced early in the growing period. These early reports stated that estimated in the St. Johns district, which is one of the largest areas under peppermint, indicate that the coming crop will not be more than 50 per cent. of normal.

Less talk is now heard regarding a substantial shortage of oil, local dealers now being of the opinion that a fair sized total production would be forthcoming when all returns were in.

Prices on spot, however, were advanced during the current trading period by 5c per pound, natural oil being quoted at from $2.55 to $2.80 per pound and redistilled oil at from $2.85 to $3.10. This price advance, however, materialized early in August when production figures were estimated to be as low as from 250,000 to 300,000 pounds of peppermint oil. Should these figures prove even approximately correct prices would naturally be materially higher as export business in 1936 alone amounted to 385,000 pounds.

ALOES

A very firm position was maintained on all grades of aloes. The position of Cape gum strengthened further when attempts to buy at the source lacked general success. Prices in the primary market were rising and offerings were shrinking in size and number. Still higher prices on spot were looked for.

Curacao advanced again by 3c per pound now being quoted at from 28c to 29c per pound. The aloe crop in Aruba and Bonaire is faced with a serious situation as a result of continued drought. It is estimated that the lack of rainfall may reduce the anticipated yield of 5,500 cases (125 pounds each) by almost half. As a result of the shortage, prices in the shipment market have risen sharply.

RHUBARB ROOT

The war between China and Japan is having an effect on prices of raw materials from no matter what part of those countries they originate. Rhubarb root is imported in large quantities from China and the uncertainty regarding receipt of replacement stocks is so acute that prices on spot have been advanced 15c per pound to a basis of from 50c to 55c. This is the highest price at which this item has sold in 10 years.

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EPHEDRINE

The outstanding feature of the raw materials market during the period under review is the sharply higher prices for ephedrine, ephedrine salts and alkaloid. After several advances the following schedules are now in effect: ephedrine alkaloid from $2.80 to $3.30 per oz.; hydrochloride from $2.50 to $3.00 per oz.; sulfate from $2.50 to $3.00 per oz.

Ma-Huang, the raw material from which ephedrine is made comes entirely from China. The crop failure there last year was so serious that very little material arrived here since January of this year. As the shipping port is Tientsin, right in the heart of the war zone, fear has been felt that if new crop is collected this year at all there will be additional serious trouble in obtaining shipments from that port. A naval blockade of the China coast has also made it unlikely that further supplies of ephedria will be forthcoming for some time.

The situation is so serious that those sellers willing to book business restricted sales to 16 ounces as the maximum obtainable by any one manufacturing consumer. Large quantities of ephedrine are also said to have been sold on contract at the very low prices prevailing until a fortnight ago. Many of these contract sales have not been covered by corresponding purchases of raw material.

The whole situation is so acute that some attention is being given to the German synthetic ephedrine. The synthetic product is U.S.P. in all respects with the exception of the optical rotation which, in the German product is right, while the pharmacopoeia prescribes left optical rotation. It might be pointed out, however, that the cost of the synthetic production is five times that of ephedrine from ephedria vulgaris at the normal price of the raw material.

IODINE

A new company capitalized at $150,000 has been organized in Japan for the purpose of recovering iodine from subterranean brines which occur in the natural as area of Otaki and vicinity, according to reports from Tokyo.

Heretofore Japan has obtained its iodine supply from seaweed and has produced more than enough to satisfy the domestic demand from that source. It is believed the new company will produce for export, particularly in view of the iodine cartel agreement entered into some time ago between Japanese and Chilean producers. Under the terms of this agreement, it is understood that Chile agrees not to sell iodine in the Japanese Empire, and Japan is allotted an export quota of 70 metric tons per annum.

MERCURY

Although raw material declined moderately within the past month to $92.00 per flask, no changes have developed in the price of mercurials and such quotations appeared to be generally firm pending further and substantial decline in the quotations on mercury.

The United States, which formerly obtained the bulk of its mercury from Spain, was Italy's largest single customer for the first quarter of the current year.

With Spain out of the market as a supplier of mercury, production in Italy almost doubled since the beginning of the year. Tentative reports give the Italian production of mercury for the first quarter as 571 metric tons, against 310 in the corresponding 1936 period. Its exports increased from 270 tons to 424 tons.

CAMPHOR

The market for Japanese natural camphor is very firm. This is in line with the trend of all raw materials which originate in the Far East. It is generally believed that Japan will endeavor to strengthen price on all such raw materials in which she enjoys a practical monopoly.

It is reported that the research laboratory of the Japanese Department of Finance has developed a successful process for the production of synthetic camphor. Industrilization of the process, details of which are being kept secret, is now under consideration.

According to the Nikkan Kogyo, an industrial newspaper of Osaka, a project is under way for the production of synthetic camphor in "Manchukuo." Negotiations are in progress for the purchase of German patent rights.

CREAM OF TARTAR

An advance of 1c per pound was instituted by manufacturers of cream of tartar placing the market at 20¼c per pound in barrels and 20¾c per pound in 100 pound kegs. Prices quoted are f.o.b. New York, without offer and subject to change without notice. The market at the new level is still very firm, quotations being made for prompt shipment only, no contracts being entered.

ALOIN

Because of the difficulty experienced in obtaining adequate supplies of gum aloes, manufacturers of aloin found it necessary to advance prices on this derived article sharply. The new schedule of from $1.80 to $1.85 per pound represents an upward movement of 20c. The situation so far as raw material costs was concerned fully warranted the position taken by aloin.

ANISE OIL

An advance of 30c per pound in anise oil put this item in the forefront of a generally firm-essential oil market. Prices now range from $1.00 to $1.05 per pound for this item which is so scarce on spot that dealers are asking a premium for quantity lots.

This oil is produced only in China. Although replacement costs were higher all quotations were practically nominal in the absence of proposals on a firm basis. The development in this oil tied up closely with the war between China and Japan, the conflict having closed North China ports and made highly uncertain the outward movement of raw materials from Hongkong and Canton.

CASSIA

This oil also originates in China. The spot market was advanced to from $1.15 to $1.30 per pound along with practically all raw materials that may be effected directly or indirectly by the conflict in the orient.

GLYCERIN

The market remained fairly steady in undertones but in the absence of any increase of new business conditions appeared to be working further in favor of buyers.

Imports of refined glycerin into the United States during the first six months of 1937 amounted to 5,556,607 pounds valued at $1,281,955. This compared to importations of only 82,057 pounds valued at $11,188 during the same period of 1936.

Production of chemically pure glycerin in the United States during the first half of 1937 amounted to 49,581,378 pounds as compared to 36,694,267 pounds during the first six months of 1936. Factory and warehouse stocks as of June 30, 1937 amounted to 8,585,487 pounds of chemically pure glycerin as compared to 21,214,854 pounds for the same period of 1936.

CORIANDER OIL

The future of this article is quite dark. Practically no coriander seed is available in Russia for consumption outside the USSR. The only oil available here was obtainable from local distillation from seed obtained from Morocco, an article with an extremely low oil yield. Prices for coriander oil on spot was therefore moved upward $2.00 per pound with a range now prevailing of from $24.00 to $25.00 per pound.

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